

6-13-15

X



**MECHANICAL
COMPONENTS 2**

**MAN
058882**

BX





Supplement No. 1 : Included
No. 2 :
No. 3 :

BX VEHICLES

MECHANICAL COMPONENTS 2



Printed in France

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USE OF THE MANUAL

PRESENTATION.

The **Repair Manual** covering this type of vehicle is in **three volumes**.

The **MECHANICAL COMPONENTS, PART 1 (8881)** and **MECHANICAL COMPONENTS, PART 2 (8882)** volumes cover operations on the vehicle MECHANICAL COMPONENTS and the BODYWORK which may be carried out by a general workshop.

The two volumes together are divided into **15 chapters** separated by vinyl tabbed **inserts** numbered **0** to **15**.

- | | |
|---|--|
| 0 : General | 8 : Rear axle |
| 1 : Engine | 9 : Suspension - wheels - tyres |
| 2 : Fuel system - Carburettor | 10 : Steering |
| 3 : Ignition system | 11 : Braking system |
| 4 : Clutch | 12 : Electrical equipment and radio |
| 5 : Gearbox - Drive shafts | 13 : Heater, ventilation and air conditioning |
| 6 : Source and reserve of pressure | 15 : Bodywork |
| 7 : Front axle | (Removable parts and panelling) |

The **Chapters** numbered **0** to **5** are in the **MECHANICAL COMPONENTS, PART 1 volume**.

The **Chapters** numbered **6** to **15** are in the **MECHANICAL COMPONENTS, PART 2 volume**.

The **BODYWORK volume (8883)** covers only operations involving the **BODYWORK**.

It is divided into three chapters in the same way as the **MECHANICAL COMPONENTS, PARTS 1 and 2 volumes**.

- 0** : General
- 14** : Welded parts
- 15** : Removable parts and panelling

Each volume comes in a pinkish-purple binder with a « MULTO » type mechanism to facilitate filing of updated pages or removal of a part for an operation in the workshop.

COMPOSITION OF A CHAPTER.

Each chapter includes :

- the list of operations in it,
- the operations in numerical order,
- where applicable, the execution drawings for the MR tools necessary for the operations covered in the chapter.

OPERATIONS.

The order of operations has been designed to obtain the best standard of work in the shortest time.

The numbers of the operations are as follows :

- a) Vehicle reference number :
 - « **XB** » for working on vehicles of all types,
 - « **XB.14** » for working on vehicles fitted with 1360 cc engines,
 - « **XB.16** » for working on vehicles fitted with the 1580 cc engine.
- b) a number with three figures identifying the assembly or assembly part
- c) a figure indicating the type of repair.
 - the figures **0 0 0** indicate the type of vehicle,
 - the figures **0 0** indicate the type of assembly
 - the figures **0** indicate checking and adjustments
 - the figures **1, 4, 7** indicate removal and fitting
 - the figures **2, 5, 8** indicate dismantling and re-assembly
 - the figures **3, 6, 9** indicate reconditioning.

OPERATIONS (continued)

The various operations are presented differently :

- a) For the operations : **General, Checks** and **Removal/Fitting of Mechanical components**, the working process is explained through **texts** and **photos**.
- b) For the operations on **Reconditioning Mechanical Components** and **Bodywork** the working process is explained through **photos** and **symbols**.

A **GLOSSARY** has been placed at the beginning of each volume for this purpose.

In the glossary (the one in the Mechanical Components volume is different from the one in the Bodywork volume), the meaning for each symbol has been translated into **nine languages**.

It is a **removable set of « plastic » sheets** bound with two manoeuvrable metal rings to facilitate the extraction of one or several sheets (and obtain photocopies from them, for instance).

TOOLING

In the **MECHANICAL COMPONENTS, PART 1 and 2**, for **each chapter**, the summary lists and photos of the special tooling, required for proper completion of the work, are given at the end of the operation description.

00 : Assembly characteristics and special points.

In the **BODYWORK volume**, the numbers and photos of the special tooling are given in the description as the work progresses.

- Tooling referenced **OUT** followed by **6 figures** ending in the letter **T** is sold by the **Réplacement Parts Department**.
- The tooling referenced with **4 figures** followed by the letter **T** is sold by **Société FENWICK Département AMA**, 24 Bld Biron - 93404 St-Ouen, telephone : 252-82-85
- The tooling referenced **MR** must be made up by the repairer himself.

VOLUME UPDATING

The number of the volume (*8881, 8882 or 8883*) is given at the bottom right hand side of the recto side of the page.

There is a figure **0** to **15** in a circle at the top of each page, recto and verso, indicating the chapter in which it is to be filed.

Updating is identified by black spots to the left of the volume number.

The number of spots indicates the updating number.

For example : 1 spot ● 8881 supplement No. 1.

2 spots ●● 8881 supplement No. 2.

TIGHTENING TORQUES

The **tightening torques** are expressed in metre Decanewtons (**mdaN**) the official torque measuring unit.

0.981 mdaN = 1 mkg (former measuring unit)

In practice, **1 mdaN = 1 m.kg**

IMPORTANT NOTES :

For all technical information concerning these vehicles, please consult :

DEPARTEMENT TECHNIQUE APRES-VENTE, ASSISTANCE TECHNIQUE

163, avenue G. Clémenceau - 92022 NANTERRE CEDEX - Telephone : 725-97-10

For all technical information concerning operating incidents, ask for internal extension number 5065, 5077 or 5278.

For information concerning tools or repairs, ask for extension number 5277.

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IMPORTANT

DIMENSIONS

1.5 à 2.5 mm

1.5 to 2.5 mm

ABBREVIATIONS

Admission	A ADM	Inlet
Arrière	AR R	Rear
Avant	AV	Front
Distribution	DT	Timing
Echappement	E ECH	Exhaust
Liquide hydraulique minéral	LHM	Mineral hydraulic fluid
Point mort bas	PMB	Bottom dead center (BDC)
Point mort haut	PMH	Top dead center (TDC)
Tours/minutes	Tr/mn	Revolutions per minute (rpm)

COLOURS

Blanc	Bc	White
Bleu	Bl	Blue
Gris	Gr	Grey
Jaune	J	Yellow
Incolore	lc	Colourless
Marron	Mr	Brown
Mauve	Mv	Mauve
Noir	N	Black
Orange	Or	Orange
Rouge	R	Red
Vert	Ve	Green
Violet	Vi	Violet

VOCABULARY

1 ^r CORPS	1st CHOKE
2 ^e CORPS	2nd CHOKE
Repère	Mark
Vue suivant	View as per

	<p> (D) Achtung ! Wichtiger Punkt oder Fehlerquelle (DK) Pas på ! Vigtigt punkt eller fejlmulighed (E) Atención ! Punto importante o posible dificultad (GB) Caution ! Important detail or possible trap (I) Attenzione ! Punto importante o possibilità di errore (NL) Let op ! Belangrijk punt, kan gemakkelijk fout gaan ! (P) Atenção ! Ponto importante ou possibilidade de errar (S) Varning ! Viktigt arbetsmoment eller möjlighet till misstag (F) Attention ! Point important ou piège possible </p>
	<p> (D) Darauf achten, dass keine Teile herunterfallen oder abspringen (DK) Risiko for at delene falder ud eller forskubber sig (E) Riesgo de caída o de proyección de piezas (GB) Parts may drop or spring out (I) Rischio di caduta o di proiezione di pezzi (NL) Kans op naar beneden vallen of wegspringen van onderdelen (P) Risco de queda ou de projecção de peças (S) Risk för att delar faller ned eller spritter ut (F) Risque de chute ou de projection de pièces </p>
	<p> (D) Unbedingt Spezialschrauben verwenden (DK) Special - skruer skal anvendes (E) Empleo imperativo de tornillos especiales (GB) Use of special fixing - hardware essential (I) Uso obbligatorio di bulloneria speciale (NL) Uitsluitend speciale bouten gebruiken (P) Utilização imperativa de parafusos or porcas especiais (S) Specialskruv måste ovillkorligen användas (F) Emploi impératif de visserie spéciale </p>
	<p> (D) Arbeitsvorgang, falls erforderlich durchführen (DK) Arbejdsoperation der udføres hvis det er nødvendigt (E) Operación a efectuar si es necesario (GB) Operation to be carried out if necessary (I) Operazione da effettuare se necessario (NL) Indien noodzakelijk handeling uitvoeren (P) Operação a efectuar se necessário (S) Arbetsmoment/arbete att utföra vid behov (F) Opération à effectuer si nécessaire </p>

	<p>D Rechts DK Højre E Derecho GB Right</p>	<p>I Destro NL Rechts P Direita</p>	<p>S Höger F Droite</p>
	<p>D Links DK Venstre E Izquierdo GB Left</p>	<p>I Sinistro NL Links P Esquerda</p>	<p>S Vänster F Gauche</p>
	<p>D Oben DK Opad E Alto GB Up</p>	<p>I Alto NL Boven P Alto</p>	<p>S Uppåt F Haut</p>
	<p>D Unten DK Nedad E Bajo GB Down</p>	<p>I Basso NL Onder P Baixo</p>	<p>S Nedåt F Bas</p>
	<p>D Hinten DK Bag E Trasero GB Rear</p>	<p>I Dietro (Posteriore) NL Achter P Traseira</p>	<p>S Bak (åt). bakre F Arrière</p>
	<p>D Vorn DK For E Delantero GB Front</p>	<p>I Avanti (Anteriore) NL Voor P Dianteira</p>	<p>S Fram (åt). främre F Avant</p>
	<p>D Ausbau. Ausbauen DK Fjernelse. Fjerne E Quitado. Quitar GB Removal. Remove</p>	<p>I Stacco. Staccare NL Verwijder. Uitbouwen P Desmontagem. Desmontar.</p>	<p>S Demontering. Demontera F Dépose - Déposer</p>
	<p>D Einbau. Einbauen DK Anbringelse. Anbringe E Colocacion. Poner GB Fitting. Fit</p>	<p>I Riattacco. Riattaccare NL Monteer. Inbouwen P Montagem. Montar</p>	<p>S Återmontering. Återmontera F Pose - Poser</p>

	<p> (D) Zerlegen (I) Smontaggio. Smontare (S) Isärtagning - Tag isär (DK) Afmontering. Afmontere (NL) Demontage. Demonteren (E) Desmontaje. Desmontar (P) Desarmar (F) Démontage - Démonter (GB) Dismantling. Dismantle </p>
	<p> (D) Zusammenbau (I) Montaggio. Montare (S) Hopsättning. Sätt ihop (DK) Påmontering. Påmontere (NL) Montage. Monteren (E) Montaje. Montar (P) Armar (F) Montage - Monter (GB) Assembly. Assemble </p>
	<p> (D) Lösen (I) Disinnestare (S) Koppla bort (DK) Adskille (NL) Losmaken (E) Desconectar (P) Desligar (F) Déconnecter (GB) Disconnect </p>
	<p> (D) Verbinden (I) Innestare (S) Koppla in (DK) Samle (NL) Aan elkaar maken (E) Conectar (P) Ligar (F) Connecter (GB) Connect </p>
	<p> (D) Die Drehung oder Übertragung muss ohne Hartpunkt erfolgen (DK) Sørg for at drejningen eller bevaegelsen sker jævnt og ensartet (E) Asegurarse de que la rotación o la translación se efectua sin punto duro (GB) Ensure that the rotation or movement is without high spots (I) Assicurarsi che la rotazione o la translazione avvenga senza sforzo (NL) Controleer of het draaien of de overbrenging zonder zwaar punt verloopt (P) Certificar-se que a rotação ou a translação se efectua sem ponto duro (S) Kontrollera att runddragningen eller manövreringen kan ske utan kärvning (F) S'assurer que la rotation ou la translation s'effectue sans point dur </p>
	<p> (D) Anschrauben. 1 = Anzahl der Umdrehungen. 180° = Einstellwinkel (DK) Skrue. 1 = Antal omdrejninger. 180° = Drejningsvinkel (E) Roscar. 1 = Número de vueltas. 180° = Angulo que se debe efectuar (GB) Screw In. 1 = Number of turns. 180° = Angular value (I) Avvitare 1 = Numero di giri. 180° = Rotazione da effettuare (NL) Aandraaien. 1 = Aantal slagen. 180° = In te stellen hoek (P) Aparafusar 1 = Número de voltas. 180° = Ângulo a efectuar (S) Skruva In 1 = Antal Varv 180° = Antal grader (F) Visser - 1 = Nombre de tours. 180° = Angle à effectuer </p>

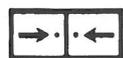
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	<p> (D) Anzahl der Schraubelemente : Schrauben, Muttern, Stiftschrauben usw (DK) Antal dele i skruesamlingen (E) Cantidad de elementos de tornilleria : tornillos, tuerca, esparrago, etc. (GB) Number of threaded components : screw, nut, stud, etc. (I) Numero di elementi di bulloneria, viti, dadi, prigionieri, ecc. (NL) Aantal : bouten, moeren, tapeinden enz. . . . (P) Número de elementos de parafusos ou porcas, porca, perno, etc. (S) Antal förskruvningspunkter : skruv, mutter, pinnbult, etc. (F) Nombre d'éléments de visserie : vis, écrous, goujons, etc. </p>
	<p> (D) Sichern bzw. Entsichern (DK) Låse eller frigøre (E) Frenar o quitar el freno, según el caso (GB) Lock or unlock as appropriate (I) Bloccare o sbloccare, secondo i casi (NL) Borgen of borg verwijderen (P) Travar ou destravar conforme o caso (S) Lås eller avlägsna låsningen (F) Freiner ou défreiner suivant le cas </p>
	<p> (D) Unbedingt Neuteile verwenden (DK) Ny del skal anvendes (E) Empleo imperativo de una pieza nueva (GB) Use of new part essential (I) Uso obbligatorio di un pezzo nuovo (NL) Noodzakelijk een nieuw onderdeel te gebruiken (P) Utilização imperativa dum a peça nova (S) Ny del måste ovillkorligen användas (F) Emploi impératif d'une pièce neuve </p>
	<p> (D) Schmierem (DK) Smøre (E) Aceitar (GB) Oil (I) Oliare (NL) Oliën (P) Olear (S) Anolja (F) Huiler </p>
	<p> (D) Reinigen...(je nach eventueller Markierung, siehe Tabelle der Klebe-,Schmier-und Dichtmittel) (DK) Rengøre med ... (afhængig af evt. mærkning af produkt) (E) Limpiar ... (siguiendo lo señalado eventualmente, ver cuadro de productos) (GB) Clean ... (according to symbol, if present, see table of recommendations) (I) Pulire ... (secondo eventuale riferimento, vedere tabella ingredienti) (NL) Reinigen ... (zoals aangegeven, zie lijts met benodigheden) (P) Limpar ... (conforme marca eventual, ver quadro ingredientes) (S) Rengör ... (enligt eventuell märkning, se listan över olika produkter) (F) Nettoyer ... (suivant repère éventuel, voir tableau ingrédients) </p>

	<p> (D) Mit ... schmieren (gemäss Markierung, siehe Tabelle der Klebe-, Schmier- und Dichtmittel) (DK) Overstryge med ... (afængig af reference produkt) (E) Untar con ... (siguiendo lo señalado, ver cuadro de productos) (GB) Smear with ... (according to symbol, see table of recommendations) (I) Spalmare di ... (secondo riferimento, vedere tabella ingredienti) (NL) Insmeren met ... (zoals aangegeven, zie lijst met benodigheden) (P) Untar com ... (conforme marca, ver quadro ingredientes) (S) Bestryk med ... (enligt märkning, se listan över olika produkter) (F) Enduire de ... (suivant repère, voir tableau ingrédients) </p>												
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(GB) See ... refer to ...													
	<p> (D) Sichtprüfung oder Prüfung mit der Hand (DK) Kontrollere visuelt eller manuelt (E) Controlar visualmente o manualmente (GB) Check visually or physically (I) Controllare visivamente o manualmente (NL) Visuele of handmatige controle (P) Controlar visual ou manualmente (S) Gör en manuell kontroll eller en okulärkontroll (F) Contrôler visuellement ou manuellement </p>												
	<table border="0"> <tr> <td>(D) Mit einem Messgerät prüfen</td> <td>(NL) Controleren met een instrument</td> </tr> <tr> <td>(DK) Kontrollere med måleinstrument</td> <td>(P) Controlar com um instrumento</td> </tr> <tr> <td>(E) Controlar con un instrumento</td> <td>(S) Kontrollera med instrument</td> </tr> <tr> <td>(GB) Check with a measuring instrument</td> <td></td> </tr> <tr> <td>(I) Controllare con uno strumento</td> <td>(F) Contrôler avec un instrument</td> </tr> </table>	(D) Mit einem Messgerät prüfen	(NL) Controleren met een instrument	(DK) Kontrollere med måleinstrument	(P) Controlar com um instrumento	(E) Controlar con un instrumento	(S) Kontrollera med instrument	(GB) Check with a measuring instrument		(I) Controllare con uno strumento	(F) Contrôler avec un instrument		
(D) Mit einem Messgerät prüfen	(NL) Controleren met een instrument												
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(E) Controlar con un instrumento	(S) Kontrollera med instrument												
(GB) Check with a measuring instrument													
(I) Controllare con uno strumento	(F) Contrôler avec un instrument												



- D** Mehrere Einbaumöglichkeiten (1 - 2 - 3)
- DK** Flere monteringsmuligheder (1; 2; 3...)
- E** Varios montajes posibles (1. 2. 3)
- GB** Several assembly possibilities (1, 2, 3)
- I** Diversi montaggi possibili (1; 2; 3)
- NL** Verschillende mogelijkheden voor montage (1 ; 2 ; 3...)
- P** Várias montagens possíveis (1. 2. 3)
- S** Flera monteringsutföranden förekommer (1; 2; 3)
- F** Plusieurs montages possibles (1 - 2 - 3)



- D** Markieren, Beim Wiedereinbau auf Zugehörigkeit der Teile achten
- DK** Afmærke. Ved genmontering skal delenes rette sammenpasning respekteres
- E** Señalar. Respetar el apareado de las piezas para el nuevo montaje
- GB** Mark. The parts must be kept paired for re-assembly
- I** Segnare. Rispettare l'accoppiamento dei pezzi per il rimontaggio
- NL** Merken. Zorg bij montage dat de onderdelen bij elkaar komen
- P** Marcar. Respetar o acasalamento das peças para armá-las
- S** Märk ut. Respektera a delarnas märkning vid återmonteringen
- F** Repérer - Respecter l'appariement des pièces pour le remontage



- D** Einstellen
- DK** Justere
- E** Regular
- GB** Adjust
- I** Regolare
- NL** Afstellen
- P** Afinar
- S** Ställ in
- F** Régler



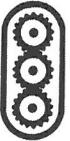
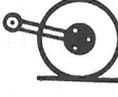
- D** Abstand, Spiel
- DK** Spil
- E** Juego
- GB** Clearance
- I** Gioco
- NL** Speling
- P** Folga
- S** Spel
- F** Jeu



- D** Einbau durch Pressen, Vorspannen oder genaues Einpassen
- DK** Montering med forspænding, prespasning eller itrykning
- E** Montaje con esfuerzo, precarga o apriete ajustado
- GB** Assembly force fit, with preload or interference fit
- I** Montaggio forzato, precarico o accoppiamento serrato
- NL** Montage onder spanning, voorspanning of klemspanning
- P** Armar em esforço, précharge ou encaixe apertado
- S** Montering med förspänning, presspassning eller ihoptryckt
- F** Montage sous contrainte, précharge ou emmanchement serré

	<p> D Leicht anziehen DK Skrue sammen uden fastspænding E Aproximar sin apretar GB Screw up without tightening I Avvicinare senza serrare NL Aandraaien zonder vast te zetten P Aconchegar sem apertar S Skruva i utan att dra åt F Approcher sans serrer </p>
	<p> D Vorgeschriebenes Anziehdrehmoment DK Tilspændingsmoment skal overholdes E Par de apriete que se debe respetar imperativamente GB Observation of tightening torque essential I Coppia di serraggio da rispettare obbligatoriamente NL Voorgescreven aanhaalspanning aanhouden P Aperto a respeitar imperativamente S Åtdragningsmoment som ovillkorligen måste respekteras F Couple de serrage à respecter impérativement </p>
	<p> D Hartlöten DK Lodde E Soldar con metal GB Braze I Brasare NL Soideren P Soldar a metal S Löd F Braser </p>
	<p> D Schweißnaht DK Svejsesøm E Cordón de soldadura GB Fillet of weld I Cordone di saldatura NL Lasrups P Cordão de soldadura S Svetssträng F Cordon de soudure </p>
	<p> D Lochpunktschweissen DK Stubsvejsning E Soldadura por puntos de "tapón" GB Plug weld I Saldatura con punti "a tappo" NL Proplassen P Soldadura por pontos "tampão" S Pluggsvetsning F Soudage par points "bouchon" </p>

	<p>(D) Einen Gang einlegen (z.B. 3. Gang)</p> <p>(DK) Sæt i gear (f. eks. : 3. gear)</p> <p>(E) Poner una relación de velocidades (ejemplo : 3º)</p> <p>(GB) Engage a gear (for example : 3rd)</p> <p>(I) Inserire una marcia (esempio : 3º)</p> <p>(NL) Schakel een versnelling in (bijv. : de 3 de)</p> <p>(P) Engatar uma velocidade (por exemplo : 3º)</p> <p>(S) Lagg i en växel (till exempel : 3 : an)</p> <p>(F) Engager un rapport de vitesse (ex. : 3º)</p>	
	<p>(D) Ein- oder Auffüllen</p> <p>(DK) Fylde eller efterfylde</p> <p>(E) Llenar o poner a nivel</p> <p>(GB) Fill or top up to level</p> <p>(I) Riempire o effettuare il rabbocco</p>	<p>(NL) Vullen of niveau op hoogte brengen of bijvullen</p> <p>(P) Encher ou pòr a nivel</p> <p>(S) Fyll eller korrigerera nivån</p> <p>(F) Remplir ou effectuer la mise à niveau</p>
	<p>(D) Gelenkwelle</p> <p>(DK) Transmisión</p> <p>(E) Transmision</p> <p>(GB) Drive Shaft</p> <p>(I) Trasmissione</p>	<p>(NL) Aandrijving</p> <p>(P) Transmissão</p> <p>(S) Drivaxel</p> <p>(F) Transmission</p>
	<p>(D) Lenkung</p> <p>(DK) Styrøj</p> <p>(E) Dirección</p> <p>(GB) Steering</p> <p>(I) Sterzo</p>	<p>(NL) Stuurinrichting</p> <p>(P) Direcção</p> <p>(S) Styrssystem</p> <p>(F) Direction</p>
	<p>(D) Motor</p> <p>(DK) Motor</p> <p>(E) Motor</p> <p>(GB) Engine</p> <p>(I) Motore</p>	<p>(NL) Motor</p> <p>(P) Motor</p> <p>(S) Motor</p> <p>(F) Moteur</p>
	<p>(D) Zylinderkopf</p> <p>(DK) Topstykke</p> <p>(E) Culata</p> <p>(GB) Cylinder Head</p> <p>(I) Testata</p>	<p>(NL) Cilinderkop</p> <p>(P) Cabeça</p> <p>(S) Topplöck</p> <p>(F) Culasse</p>

	<p> D Getriebe DK Gearkasse E Caja de velocidades GB Gearbox I Scatola cambio </p>	<p> NL Versnellingsbak P Caixa de velocidades S Växellåda F Boîte de vitesses </p>
	<p> D Zwischengetriebe DK Overføsels - gearhjul E Piñones de transferencia GB Transfer gear assembly I Pignoneria di movimento </p>	<p> NL Overbrengingstandwielen P Carretos de transferencia S Överföringsdrev F Pignons de transfert </p>
	<p> D Federung und Radaufhängung DK Ophængning eller affjedring E Suspensión GB Suspension I Sospensione </p>	<p> NL Vering P Suspensãõ S Fjädring F Suspension </p>
	<p> D Bremsen DK Bremser E Frenos GB Brakes I Freni </p>	<p> NL Remmen P Travões S Bromssystem F Freins </p>
	<p> D Hinterachse : Längslenker DK Bagbro : Bærearml E Eje trasero : Brazo GB Rear axle : Arm I Assale posteriore : Braccio </p>	<p> NL Achterbrug : Draagarm P Eixo traseiro : Braço S Bakvagn : Bårm F Essieu arrière : Bras </p>
	<p> D Hinterachse : Radnabe DK Bagbro : Nav E Eje trasero : Buje GB Rear axle : Hub I Assale posteriore : Mozzo </p>	<p> NL Achterbrug : Naaf P Eixo traseiro : Cubo S Bakvagn : Nav F Essieu arrière : Moyeu </p>

	<p> D Vorderachse : Unterer Querlenker DK Forbro : Nederste bæream E Eje delantero : Brazo inferior GB Front axle : Lower arm I Assale anteriore : Braccio inferiore </p>	<p> NL Voorbrug : Onderdraagarm P Eixo dianteiro : Braço inferior S Framvagn : Undre länkarm F Essieu avant : Bras inférieur </p>
	<p> D Vorderachse : Achsschenkel DK Forbo : Styrebolt E Eje delantero : Pivote GB Front axle : Swivel assembly I Assale anteriore : Pivot </p>	<p> NL Voorbrug : Fusee P Eixo dianteiro : Pivot S Framvagn : Pivot F Essieu avant : Pivot </p>
	<p> D Klasse DK Klasse E Clase GB Class I Classe </p>	<p> NL Klasse P Classe S Klass F Classe </p>
	<p> D Ablassen DK Tømme E Vaciar GB Drain I Svuotare </p>	<p> NL Aftappen P Esvaziar S Töm ur F Vidanger </p>
	<p> D Entlüften DK Udlufte E Purgar GB Bleed I Spurgare </p>	<p> NL Ontluchten P Purgar S Lufta F Purger </p>
	<p> D Bearbeiten DK Bearbejde E Mecanizar GB Machine I Lavorare </p>	<p> NL Bewerken P Trabalhar a maquina S Bearbeta, slipa, etc. F Usiner </p>

**REPAIR
MANUALS
MECHANICAL
COMPONENTS 1
AND
MECHANICAL
COMPONENTS 2**

**CHAPTER
FILING**

- 0** *GENERAL*
- 1** *ENGINE*
- 2** *FUEL SUPPLY
CARBURATION*
- 3** *IGNITION*
- 4** *CLUTCH*
- 5** *GEARBOX
DRIVE-SHAFTS*
- 6** *SOURCE AND RESERVE
OF PRESSURE*
- 7** *FRONT AXLE*
- 8** *REAR AXLE*
- 9** *SUSPENSION
WHEELS - TYRES*
- 10** *STEERING*
- 11** *BRAKING SYSTEM*
- 12** *RADIO AND
ELECTRICAL EQUIPMENT*
- 13** *HEATING
VENTILATION AND
AIR-CONDITIONING*
- 15** *BODYWORK
(REMOVABLE COMPONENTS
AND TRIMMING)*

Operation number	DESCRIPTION
XB. 390-000	Working on the hydraulic system - Precautions on refitting
XB. 390-00	Characteristics and special features of the source and reserve of pressure
XB. 390-0	Draining the hydraulic circuit Checking the source and reserve of pressure
XB. 391-1	Working on the source and reserve of pressure

*WORKING ON THE HYDRAULIC SYSTEM
PRECAUTIONS ON REFITTING*

**PRECAUTIONS TO BE TAKEN WHEN WORKING ON
THE HYDRAULIC UNITS OR THE SYSTEM**

The correct functioning of the entire system presupposes perfect cleanliness of the fluid and the hydraulic units. Stringent precautions must therefore be taken when working on the hydraulic system and during the storage of the fluid and components.

1. HYDRAULIC FLUID :

Mineral hydraulic fluid (LHM) is the only suitable type and must be used to the exclusion of all others in the hydraulic system of the car.

This LHM fluid is green in colour and similar to engine oil.

The use of any other would ruin the rubber rings and seals in the system.

2. RUBBER UNITS AND PARTS :

Suitable components are identified by their green colour and may only be replaced by genuine replacement components painted or marked in green.

All rubber components (joints, hoses, diaphragm, etc...) are of a special quality for use with LHM fluid and are identified by their white or green colour.

3. STORAGE :

Components must be stored full of fluid and blanked off. Like the piping they must be protected against shock and the ingress of dust.

Rubber tubing and joints must be stored away from dust, air, light and heat.

LHM hydraulic fluid must be stored in its original containers carefully sealed. We advise the use of one litre (for topping up) or five litre containers (for refilling) to avoid having to keep opened containers.

4. CHECKS BEFORE CARRYING OUT WORK :

Before working on the hydraulic system in case of correct operation, ensure the following :

a) *That the controls or the mechanical linkages of the units or the group of hydraulic units involved are not stiff in operation.*

b) and that the *HP circuit is under pressure*, as follows :

With the engine at idling speed :

- Unscrew the pressure-release screw on the pressure regulator by one turn to one turn and a half : a sound of leakage should be heard from the regulator.
- Retighten the release screw : cut-out must occur which results in a reduction in the running noise emitted by the H.P. pump.

If not, check in the following sequence :

- that there is sufficient fluid in the reservoir,
- that the reservoir filter is clean and in good condition,
- that the H.P. pump is primed and there is no air leak on the suction side of the pump,
- that the release screw of the pressure regulator is correctly tightened.
- that sealing ball (2) is in position (**see Fig. I and II, page 5**).

5. PRECAUTIONS TO BE TAKEN BEFORE WORKING ON THE HYDRAULIC SYSTEM :

- a) *Carefully clean* the area of work, the unions and the unit to be removed.
- Disconnect the lead from the negative terminal of the battery.
 - Only use petrol or lead-free petrol for cleaning.
- b) *Release the pressure* in the circuits.
- Place the vehicle in the « *low* » position.
 - Slacken the pressure regulator release screw (*by one turn to one turn and a half, do not remove the screw : the sealing ball (2), see Fig. I and II page 5, could get lost*).
 - Wait until the front of the car has reached the low position.

6. PRECAUTIONS TO BE TAKEN DURING REMOVAL.

- a) *Blank off the metal pipes* with plugs, and rubber tubes with round pins of the correct diameter.
- b) *Blank off the openings* of components with plugs of the correct diameter.

NOTE : Plugs and pins must be carefully cleaned before insertion.

7. CHECK OR TEST OF HYDRAULIC UNITS :

- Use *4034-T test bench* equipped and designed for use with LHM fluid.
- This bench is *painted green* and its accessories are marked in green.
- Never use the bench with another fluid or for testing components operating with another fluid (units of a « D » car using LHS 2 for instance).

NOTE : The « Le Bozec » pump used on test benches for checking DIESEL injectors can be resorted to for testing components operating with LHM mineral fluid provided that the bench is cleaned first.

8. PRECAUTIONS TO BE TAKEN DURING REFITTING :**a) *Cleaning* :**

- steel pipes must be blown through with compressed air,
 - rubber tubes and joints must be washed in petrol or lead-free petrol and then dried with compressed air,
 - hydraulic units must also be cleaned with petrol or lead-free petrol and blown through with compressed air.
- NOTE : Renew all joints and seals during refitting.

b) *Lubrication* :

- Follow the indications as stated in the operations in the Manual.
- Joints and internal parts must be lightly oiled before fitting (use mineral fluid LHM only).
- If parts in contact with hydraulic units have to be greased use a mineral grease only (as employed for cardan shafts or bearings).

c) *Fitting :*

Only use joints of a quality compatible with LHM mineral fluid.

To connect a union, proceed as follows : **Fig. III**

- Position sleeve-seal « **a** » lightly coated with LHM fluid ; this sleeve must not reach the extremity of pipe « **b** ».
- Centre the pipe in the housing by lining it up with the axis of the hole, avoiding all stress. (Ensure that the end « **b** » of the pipe enters into the small bore « **c** »).
- **Start screwing in the union-nut by hand.** Slacken the unit fixings, *if necessary*, to make this operation easier.
- Tighten nut moderately : excessive force could cause a leak because of the deformation of the pipe.

Tightening torques :

3.5 mm dia. pipe	0.8 à 0.9 m.daN
4.5 mm dia. pipe	
6.0 mm dia. pipe	0.9 to 1.1 m.daN

The design of the various seals ensures that their sealing action increases with fluid pressure. **In the case of a leak, check the tightening torque of the union-nut. If the leak does not stop, replace the sleeve-seal.**

To connect a rubber tube, a rubber ring of suitable diameter has to be positioned between the tube and the hose clip.

9. CHECKS ON COMPLETION OF WORK.

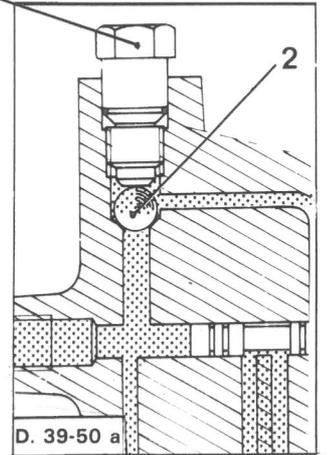
On completion of work on hydraulic units or the system itself check the following :

- The union for leaks.*
- The clearance between the pipes :* **pipes must not touch one another or any component, nor may any other unit, whether fixed or movable, exert any stress on them.**

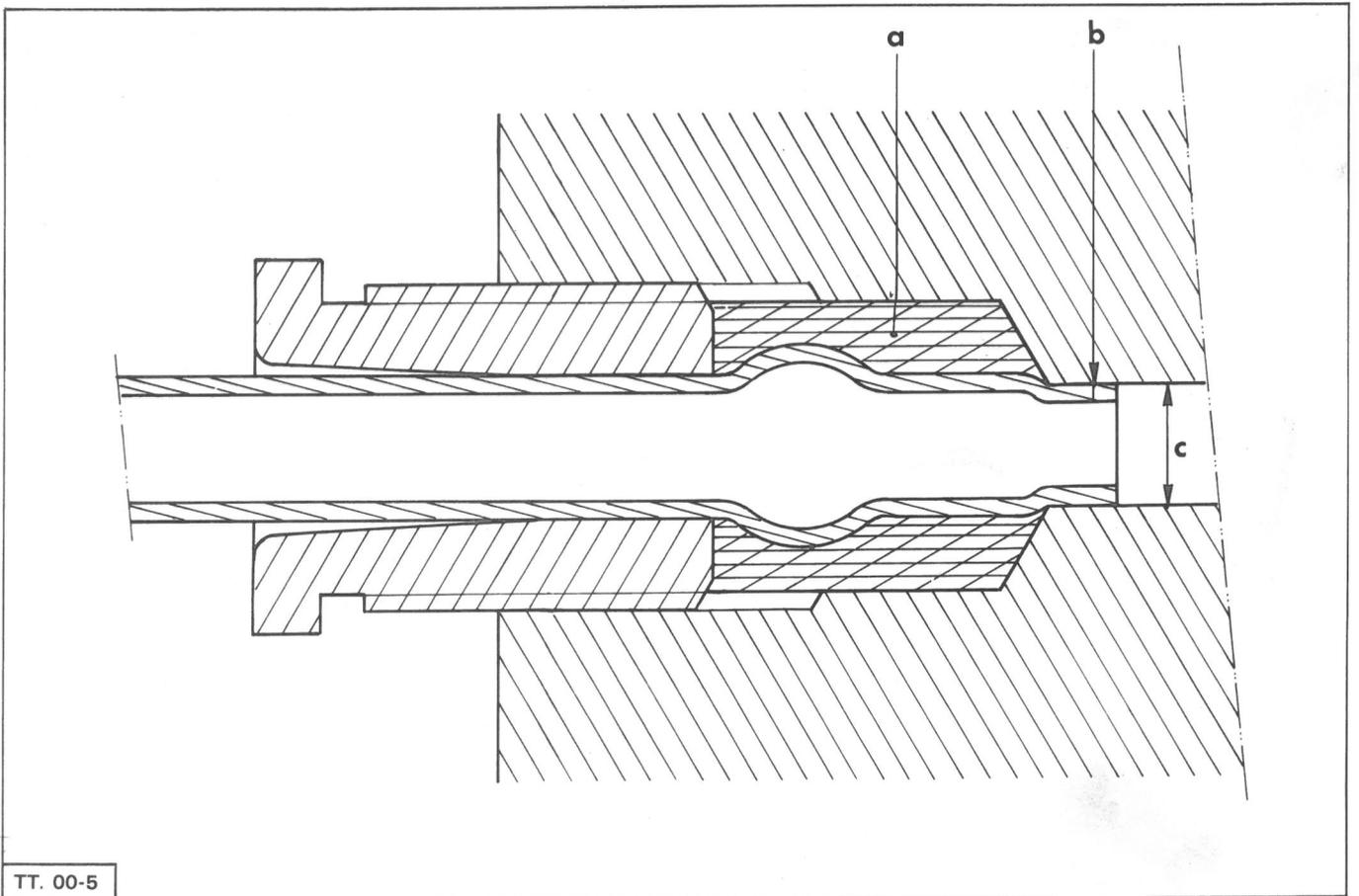


82-1050

I



II



TT. 00-5

III

*CHARACTERISTICS AND SPECIAL FEATURES OF
THE SOURCE AND RESERVE OF PRESSURE*

Reservoir :

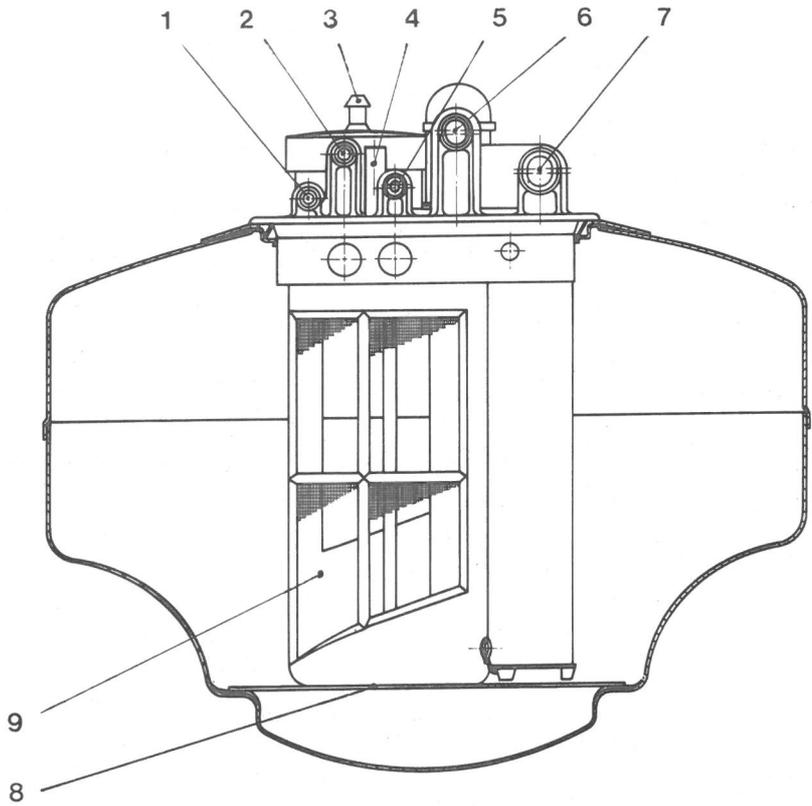
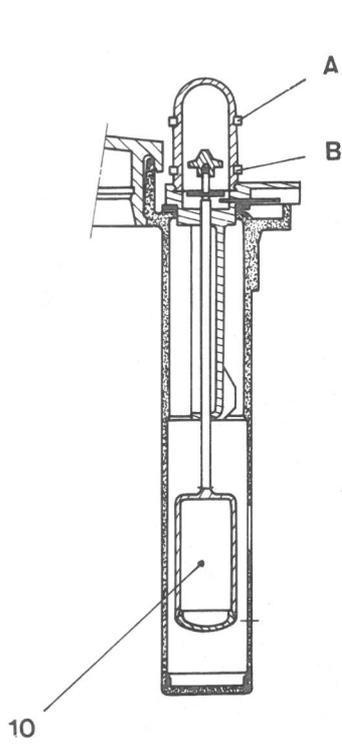
The reservoir is located in the right-hand front section of the engine compartment. Its breather, located on the filler cap, is connected to a filter-capsule (12) placed under the bracket : **Fig. III.**

Level indicator : Fig. I

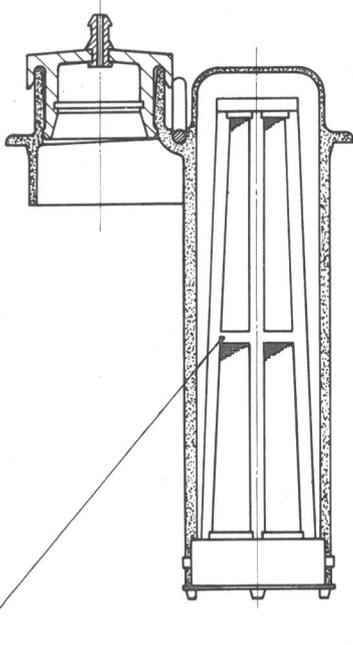
- A** : maximum mark
- B** : minimum mark

Key to reservoir diagram : Fig. I, II and III :

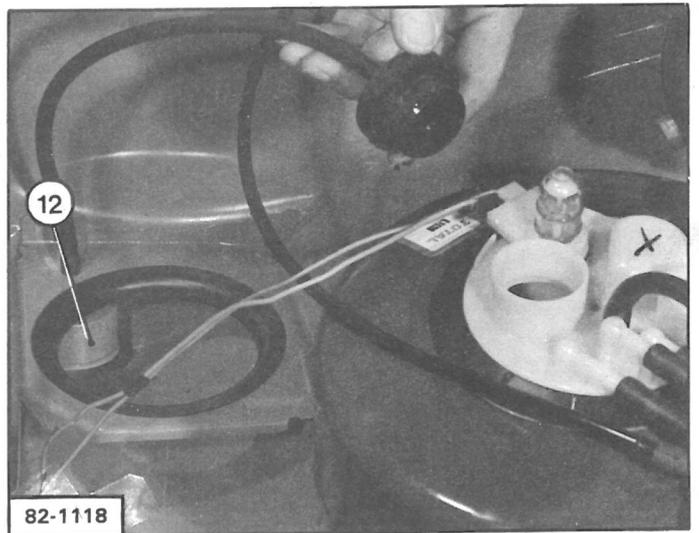
- 1** - Overflow return from front and rear suspension cylinders.
- 2** - Overflow return from security valve and front and rear height correctors.
- 3** - Reservoir breather.
- 4** - Venting pipe for front suspension cylinders.
- 5** - Operational return and overflow return from brake control valve.
- 6** - Operational return from pressure regulator and front rear height correctors.
- 7** - Suction line for HP pump.
- 8** - Deflector.
- 9** - Filter for overflow and operational return.
- 10** - Level indicator float.
- 11** - Filter on HP pump suction line.
- 12** - Filter capsule for breather.



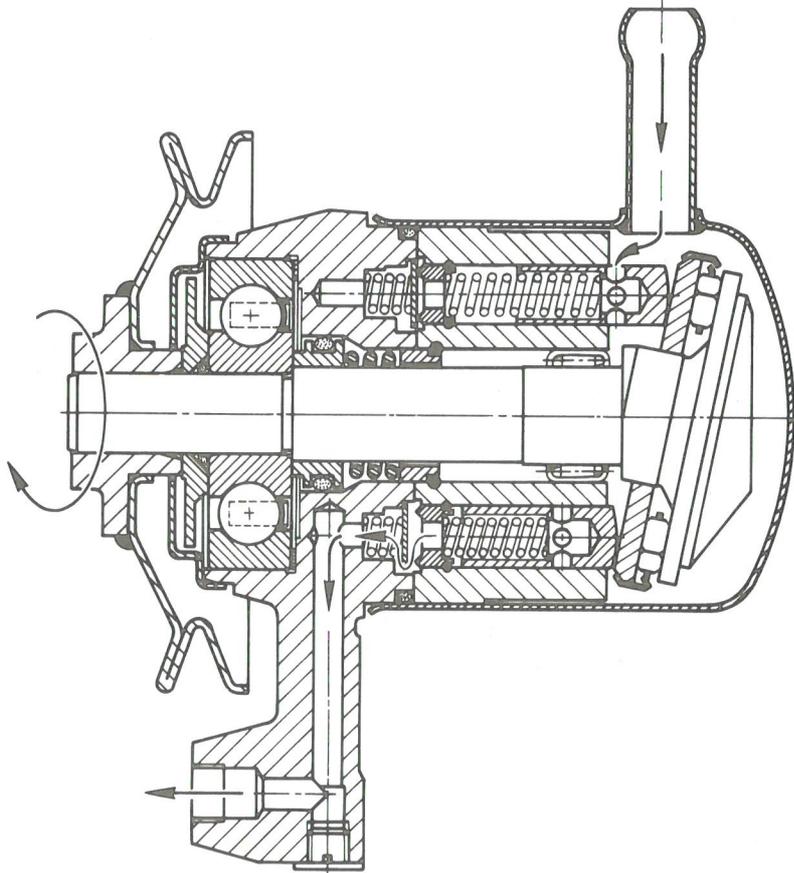
BX. 39-2



BX. 39-2

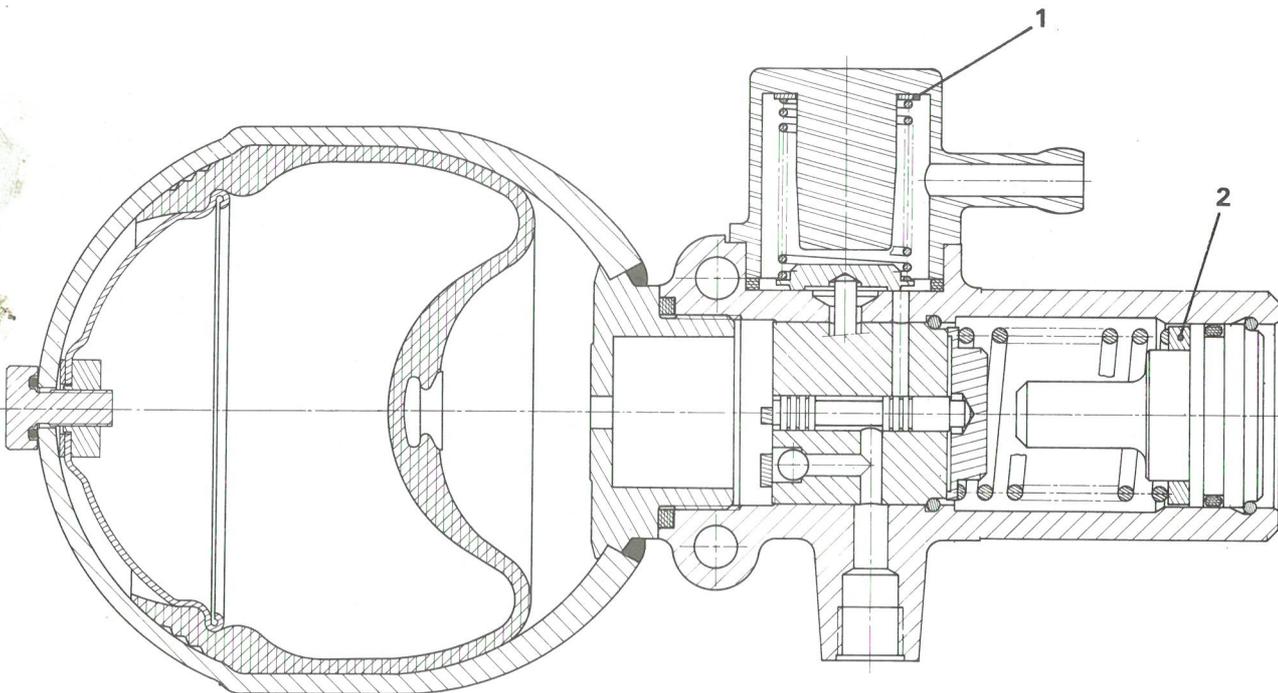


III



L. 39-20

I



G. 39-9

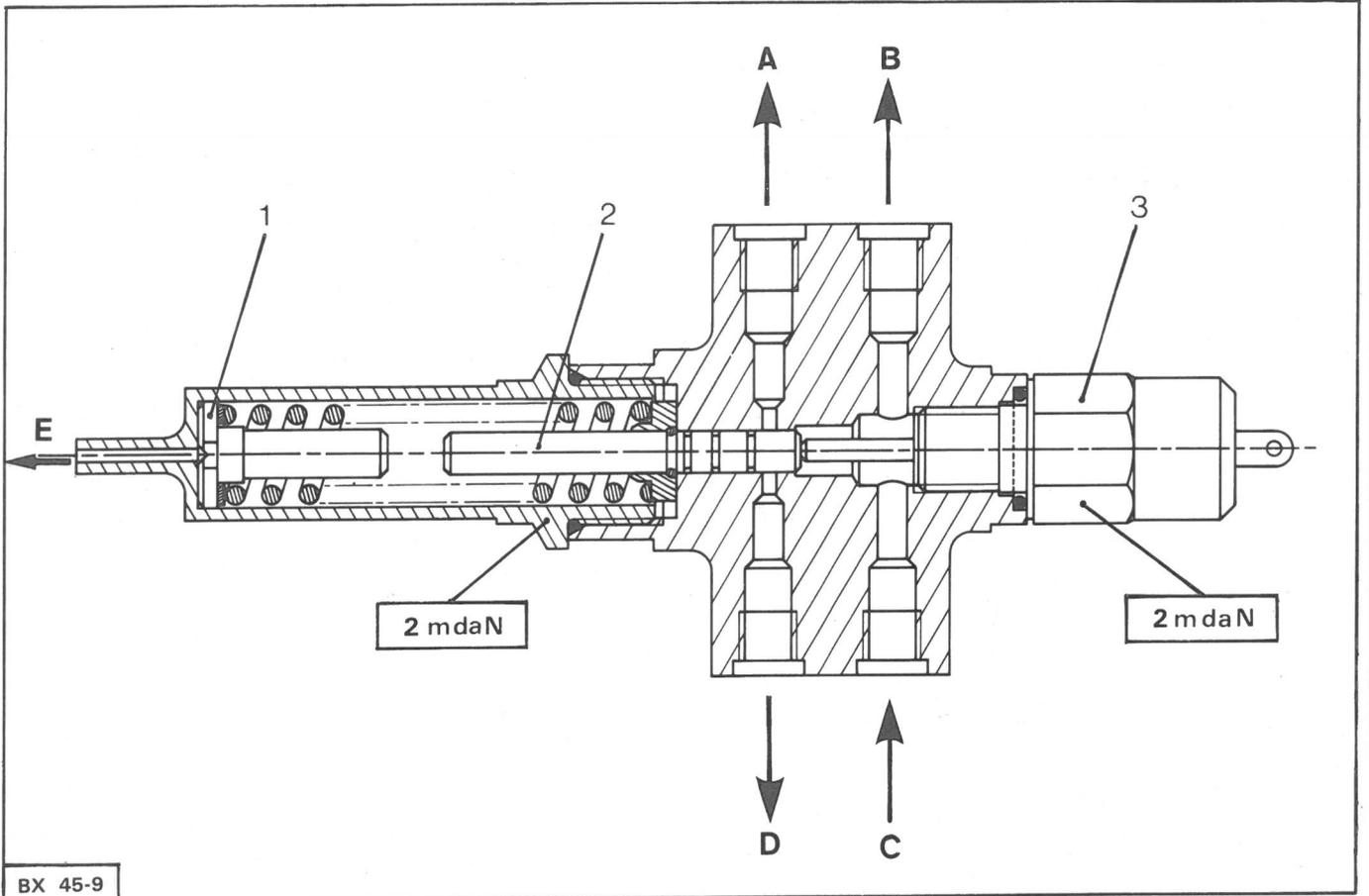
II

Security valve :

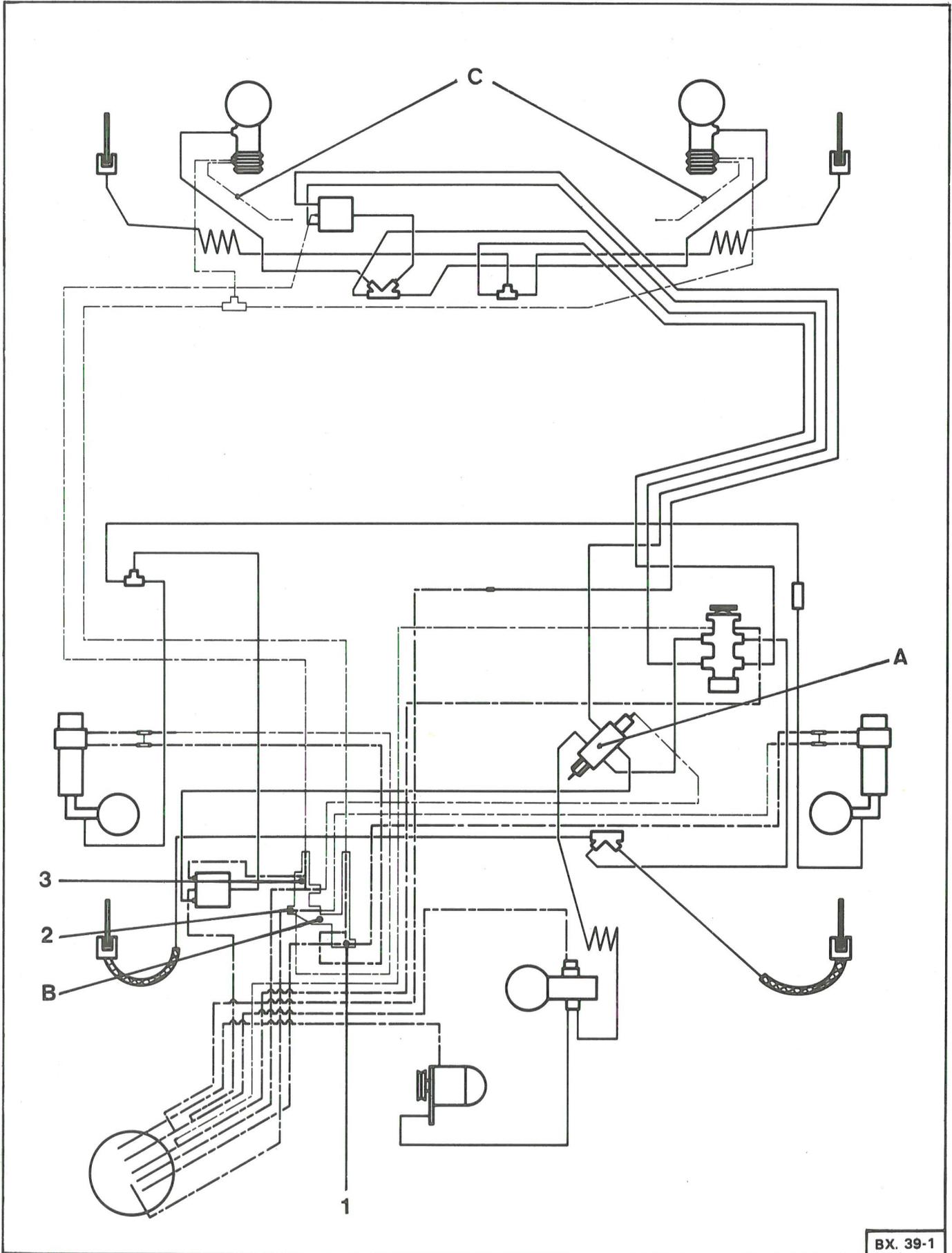
Calibration pressures for slide valve return spring :

- Pressure for isolation (*no supply to suspension at A and D*) : **80 bars min.**
- Pressure for supply to suspension (*delivery at A and D*) : **100 bars min.**

Key to diagram :**A** : Supply to front corrector**B** : Supply to brake control valve**C** : H.P. pump**D** : Supply to rear corrector**E** : Security valve leakage return**(1)** : Adjusting shims (*calibration of slide valve return spring*)Thickness of adjusting shims : **0.9 mm****(2)** : Slide valve**(3)** : Fault detector (**mechanically operated through shifting of slide-valve (2)**).



BX 45-9



COMPLETE HYDRAULIC SYSTEM

1. Key to assembly diagram :

- A** : Security valve.
- B** : Assembly of return pipes to reservoir, comprising :
 - (1) Overflow return for front and rear suspension cylinders.
 - (2) Venting pipe for front suspension cylinders
 - (3) Leakage from security valve and front and rear height correctors
- C** : Venting line for rear suspension

Piping identification :

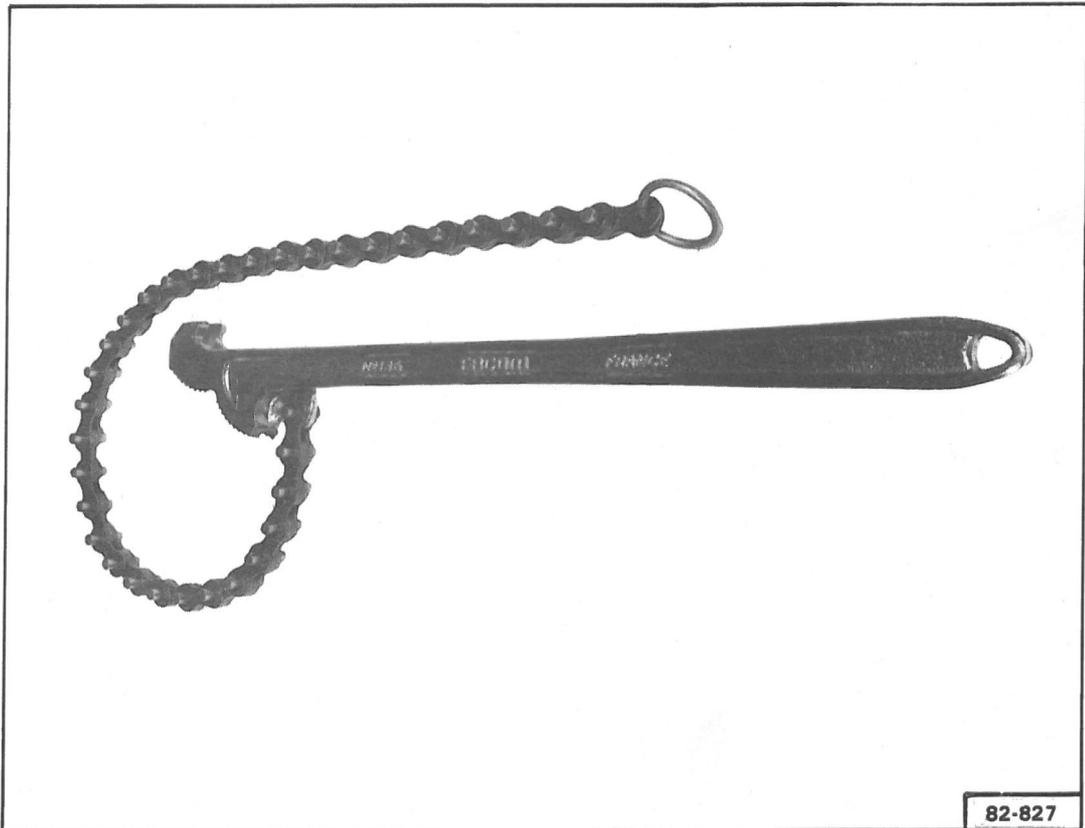
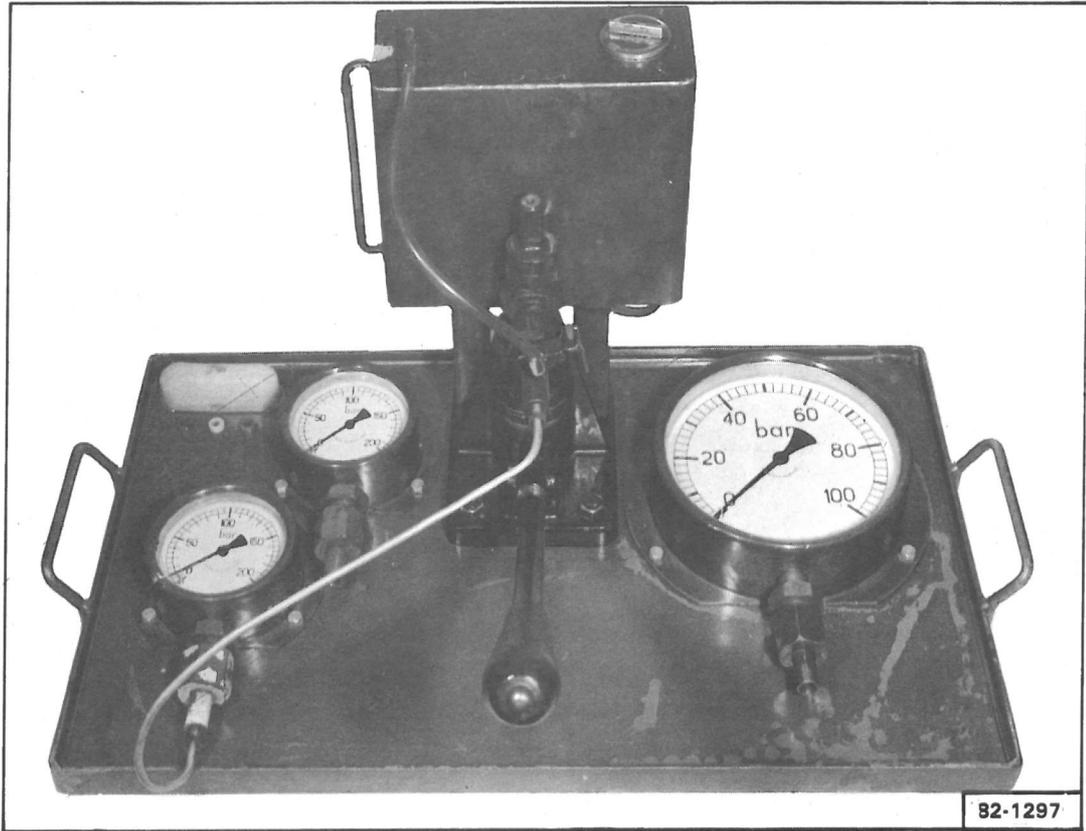
Rigid pipes _____

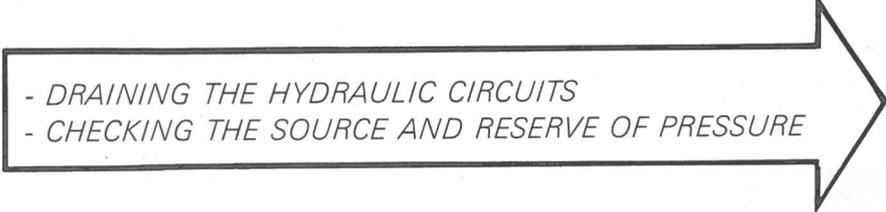
Rubber pipes - - - - -

Plastic pipes - - - - -

Fig. I - 4034-T: Test bench for checking the hydraulic components.

Fig. II - Chain wrench (*available in trade stores*): Removal of main accumulator and suspension spheres.



- 
- DRAINING THE HYDRAULIC CIRCUITS
 - CHECKING THE SOURCE AND RESERVE OF PRESSURE

DRAINING THE HYDRAULIC CIRCUITS

DRAINING.

Depressurize the circuits.
(See Operation XB. 390-000)

Remove reservoir securing spring (4).

Take out central unit (2).

Remove :

- HP pump suction filter (5),
- filter (6) for return fluid.

Remove the reservoir, empty it and disengage the deflector (*separation plate at bottom of the reservoir*).

Clean filters (5) and (6), reservoir and deflector *with petrol, then blow off with compressed air.*

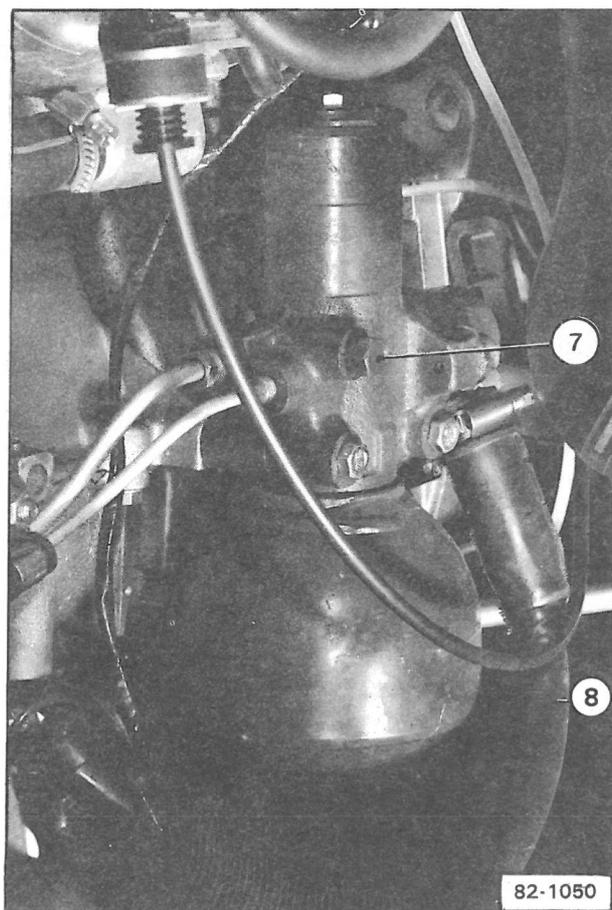
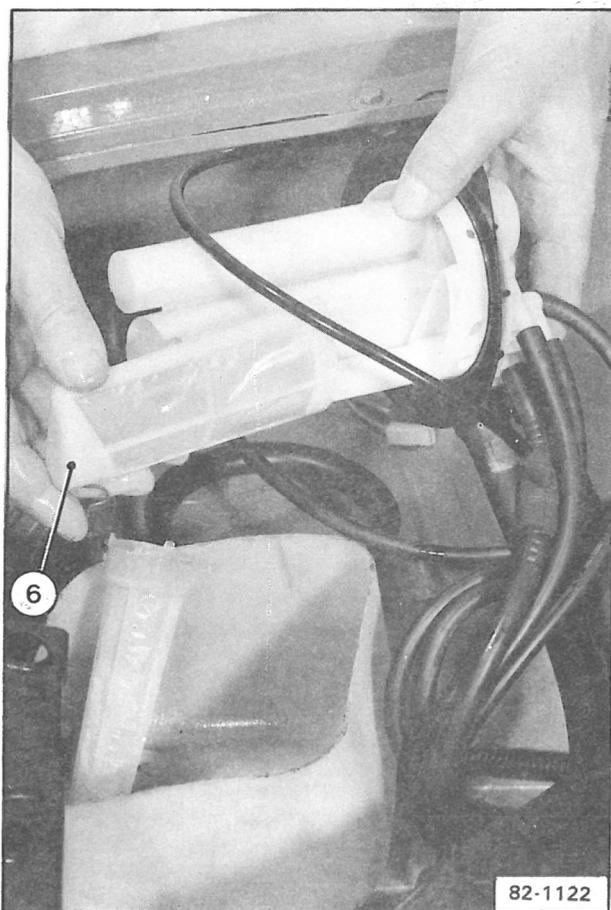
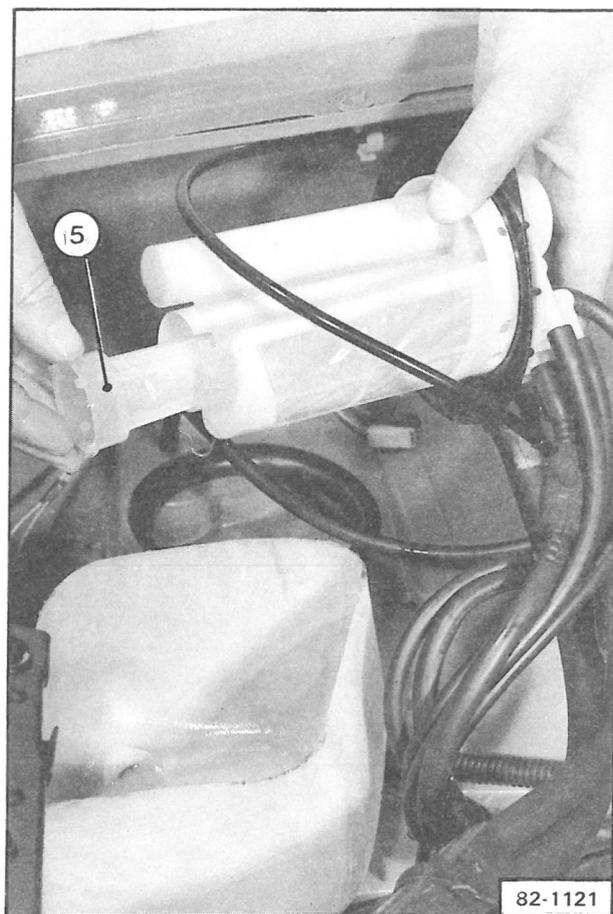
Re-assemble the parts.

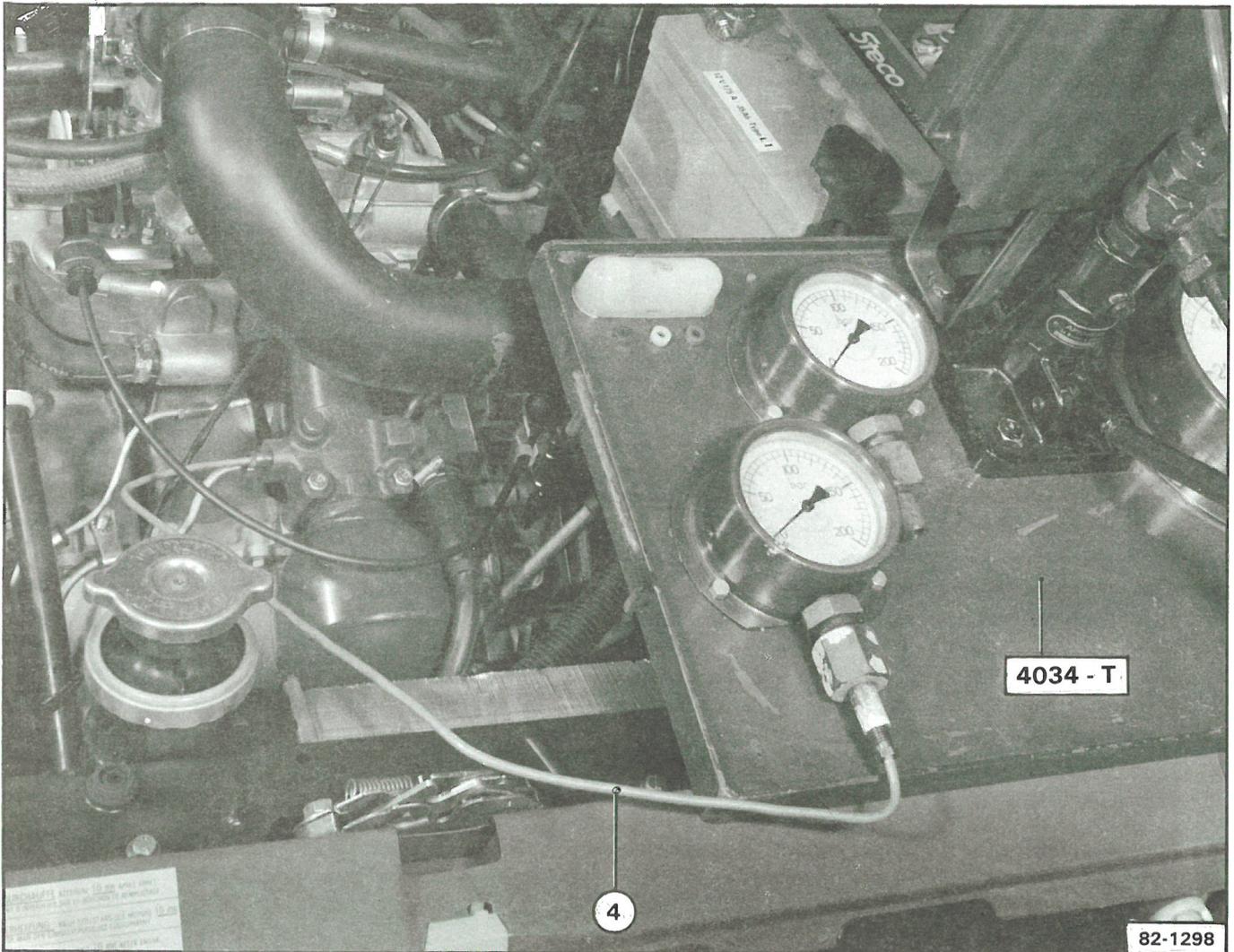
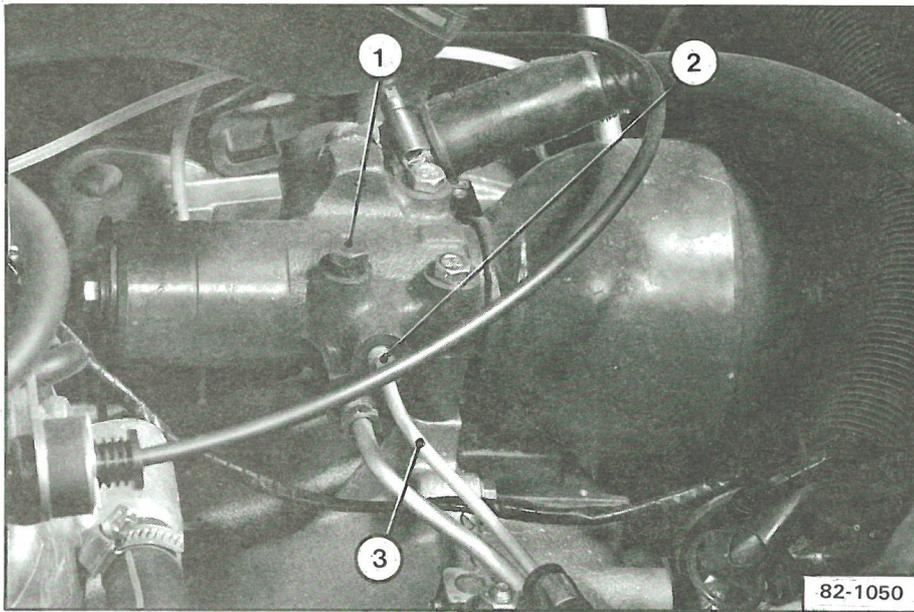
FILLING UP.

Pour 2,5 litres, approximately, of LHM hydraulic fluid into the reservoir.

Prime the HP pump :

- Fill up the pump with hydraulic fluid through suction pipe (3).
- Slacken the bleed screw of the pressure regulator and start the engine.
- Quickly connect suction pipe (3).
- Tighten bleed screw of the pressure regulator as soon as throbbing is felt in return pipe (8).
- After the vehicle has been stabilized, top up the fluid level in the reservoir until the mobile index of level indicator (1) reaches the upper red mark.





CHECKING THE SOURCE AND RESERVE OF PRESSURE

PREPARATION Fig. I and II.

Make sure that the hydraulic reservoir filters are clean.

Release the pressure :

Slacken bleed screw (1) of the pressure regulator.

Slacken union-screw (2) of operational pipe (3) and free the pipe end from the pressure regulator.

Connect one end of pipe (4) to the pressure regulator, in place of the operational pipe and the other end to a 0-250 bar pressure gauge, or to one of the two pressure gauges of this type which are fitted on **4034-T** test bench.

CHECKS.

Checking the main accumulator :

- Tighten bleed screw (1) of the pressure regulator.
- Disconnect the contact breaker lead.
- Operate the starter motor while watching the pressure gauge needle. The needle goes up steadily until it comes to a standstill: the reading registered is the value of pressure for the main accumulator.
- The valve should be as follows :

$$62 \begin{matrix} +2 \\ -32 \end{matrix} \text{ bars}$$
- Connect the contact breaker lead.

Checking the pressure regulator :*Checking the cut-out pressure :*

- Start the engine and keep it slightly in acceleration.
- Tighten pressure-regulator bleed screw (1) and watch the pressure gauge needle.
When the needle stops rising, it shows the cut-out pressure :

170 ± 5 bars

- When the cut-out pressure has been reached, let the engine run for a short while so as to stabilize the pressure.
- Stop the engine. Watch the pressure gauge needle and note the pressure drop *in the next 3 minutes*.

If the drop in pressure exceeds 10 bars, the pressure regulator is faulty.

Checking the cut-in pressure :

- start the engine and keep it slightly in acceleration.
- When the cut-in occurs, slightly, slacken pressure-regulator bleed screw (1).
- The pressure gauge needle falls gently then rises as soon as the HP pump begins to operate.
- The minimum reading indicated by the pressure gauge needle corresponds to the cut-in pressure :

145 ± 5 bars

*WORKING ON THE SOURCE AND RESERVE
OF PRESSURE*

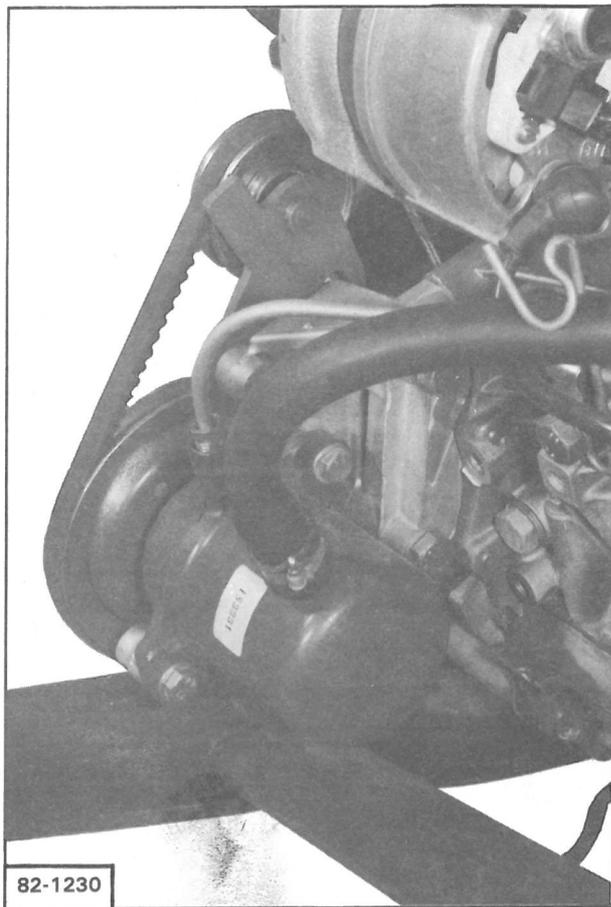
**REMOVING AND FITTING THE H.P. PUMP, THE PRESSURE REGULATOR OR
THE MAIN ACCUMULATOR**

There are no special difficulties for these operations, but the following precautions **must be taken** :

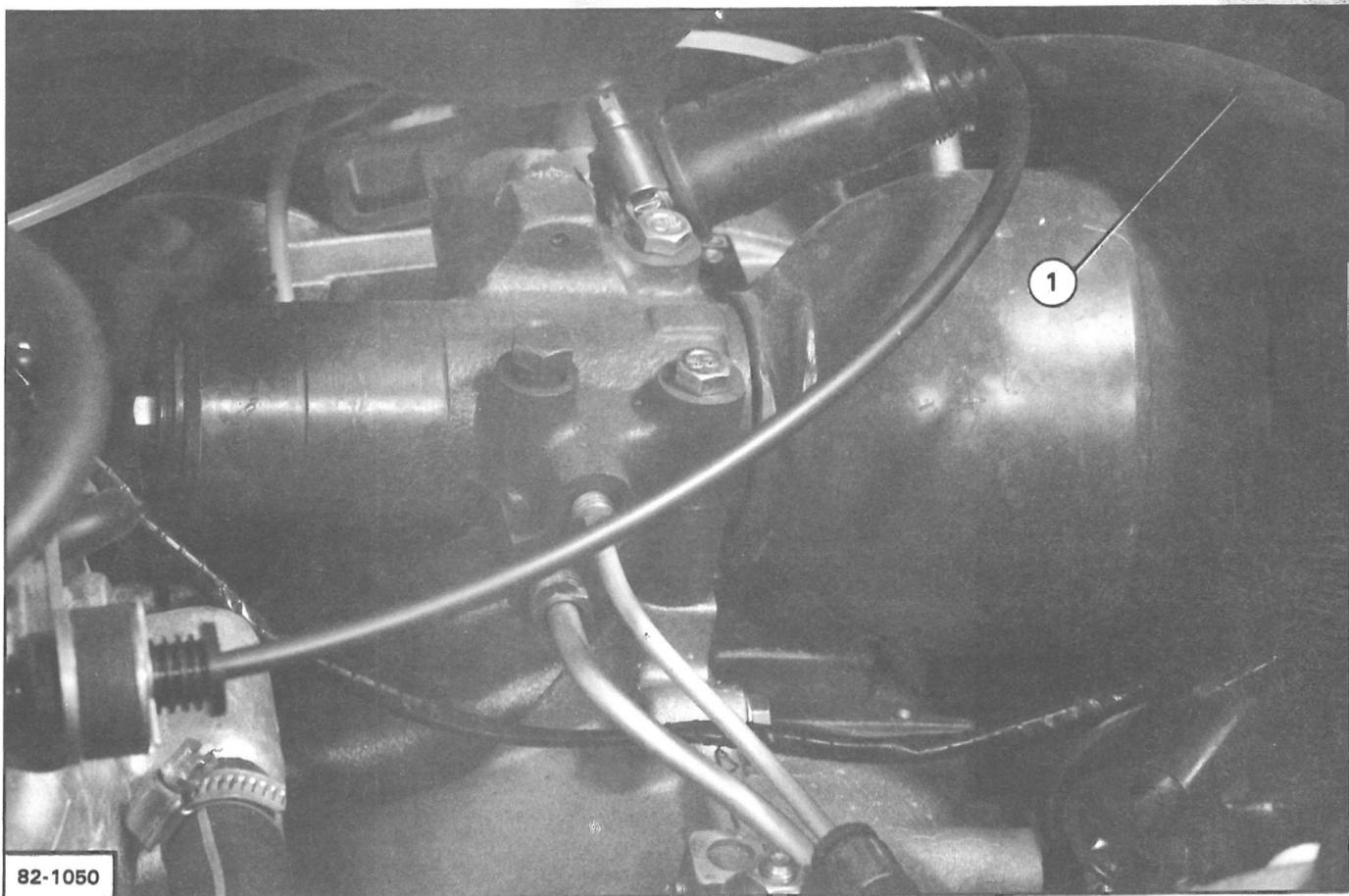
Rules to be observed when carrying out any operation on a hydraulic component (*see Op. XB. 390-00*).

Priming the H.P. pump :

- Fill the pump with hydraulic fluid through the suction pipe.
- Slacken the pressure-regulator bleed screw and start the engine.
- Quickly connect the suction pipe.
- Tighten the pressure-regulator bleed screw as soon as a throbbing is felt in the return pipe (1) : **Fig. II.**



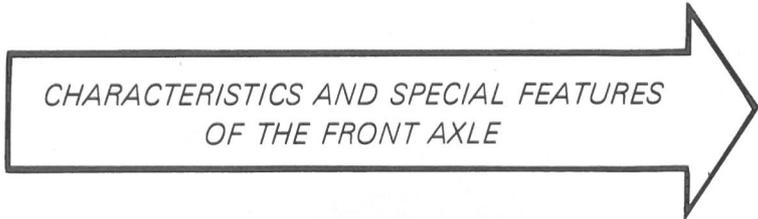
82-1230



82-1050

Operation number	DESCRIPTION
XB. 410-00	Characteristics and special features of the front axle
XB. 412-1	Removal and fitting of a lower wheelarm
XB. 412-2	Exchange and adjustment of the lower arm bearings
XB. 412-3	Reconditioning a lower wheelarm  
XB. 413-1	Working on swivel

CHARACTERISTICS AND SPECIAL FEATURES
OF THE FRONT AXLE



CHARACTERISTICS

Conditions required for check and adjustment

With the vehicle in « normal driving » position and the engine idling, check heights at **central parts**.

Height at front : 160 ± 8 mm, taken between the rear crossmember of the front axle unit and the point of wheel contact with the ground.

Height at rear : 214 ± 8 mm, taken between the crossmember tube of the rear axle unit and the point of wheel contact with the ground.

- Alignment (adjustable)	Toe out : 0 to 3 mm
- Castor angle (not adjustable)	$2^\circ \pm 35'$
- Swivel pin inclination (not adjustable)	$5^\circ 12'$
- Camber angle (not adjustable)	$0^\circ \pm 30'$
- Steering lock angle (not adjustable)	
<i>Inner wheel</i>	42°
<i>Outer wheel</i>	33.7°
- Wheel offset	- 7.9 mm

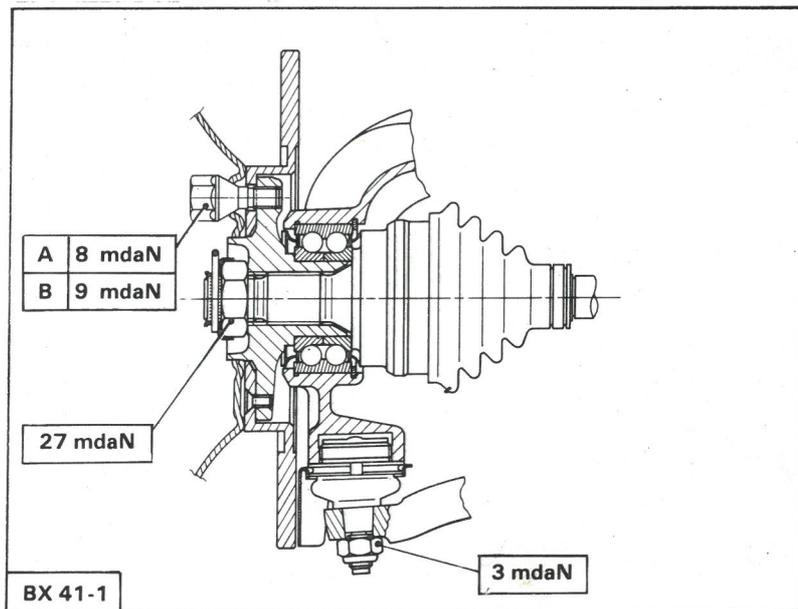
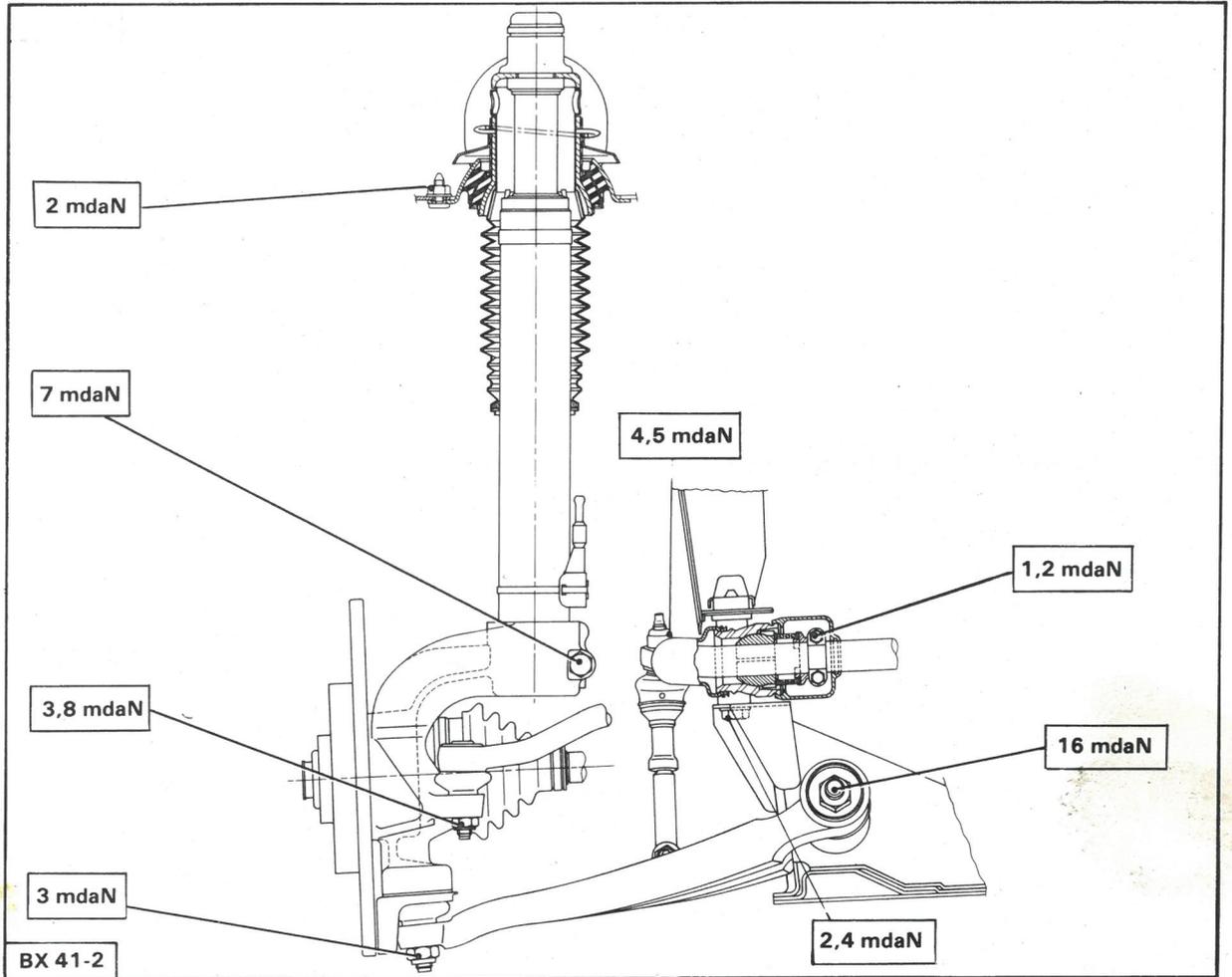
SPECIAL FEATURES

- The BX 14 axle unit differs from the BX 16 axle unit.
- Free play at the arm joint tapered bearings 0.14 to 0.22 mm
- Arm joint adjusting shims from 0.70 to 1.50 mm
(level with the rear bearing) (every 0.05 mm)

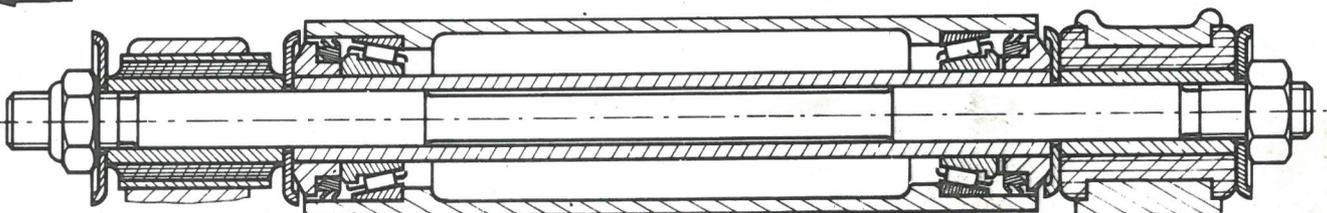
Tightening torque values for wheel nuts :

- A** : Pressed steel rims 8 m.daN
- B** : Light-alloy rim 9 m.daN

When carrying out an operation which necessitates the removal of **light-alloy** wheels, **smear** the wheel centring bore with « TOTAL MULTIS » **grease**.

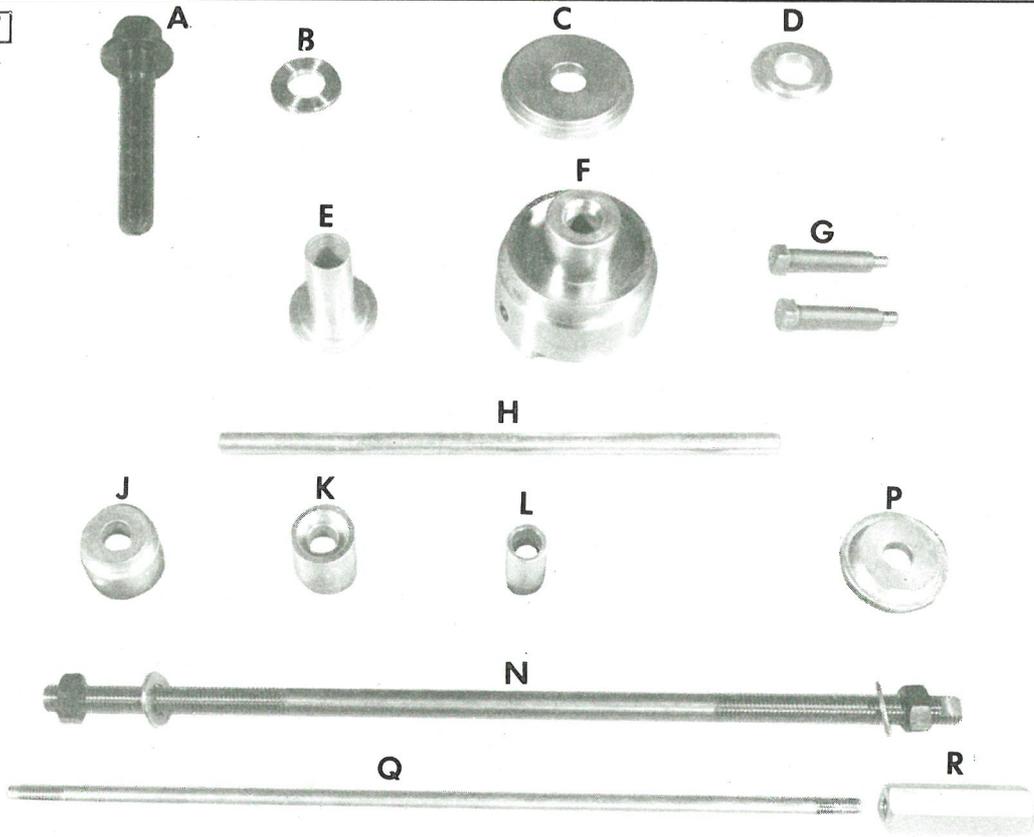


AVANT



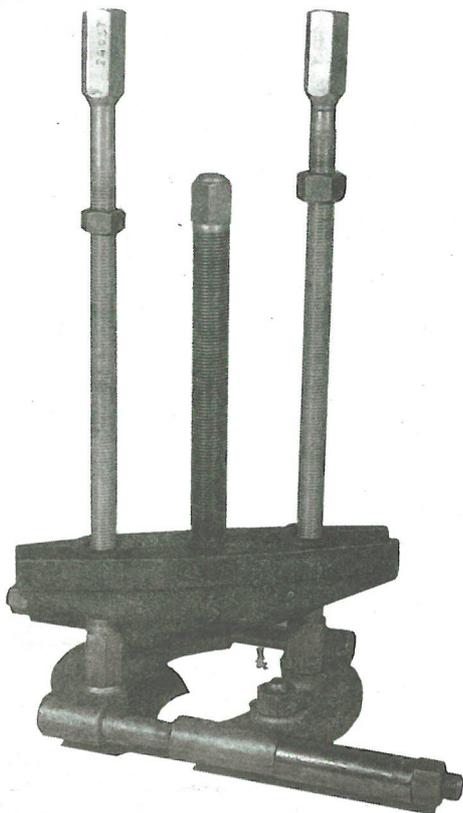
BX 41-4

7104-T



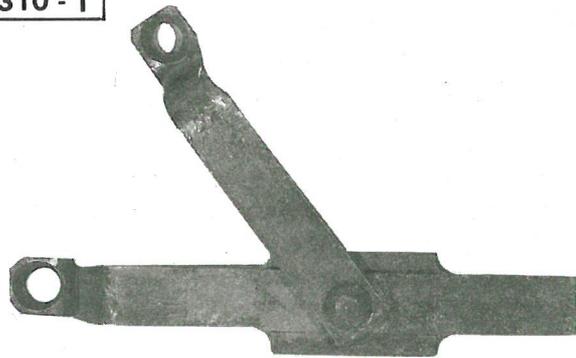
82-2136

2405 - T



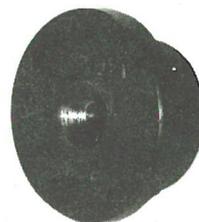
12-429

6310 - T



13-723

7101 - T.J



82-1982

RECOMMENDED TOOLS

7104-T

Kit for reconditioning front arm joints and hubs :

A : Screw, dia. 20 mm, pitch 1.5

B : Friction washer

C : Spacer

D : Spacer

E : Guide

F : Spacer

G : Screw, dia. 12 mm, pitch 1.25

H :

J : Spacer

K : Spacer

L : Tube

N : Threaded rod, dia. 14 mm, with nuts and washers

P : Spacer

Q : Adaptor and sleeve used with the inertia puller : 1671-T

R : Sleeve used with the inertia puller : 1671-T.

2405-T

Puller with separator

6310-T

Hub locking tool

7101-T

XB 16 gearbox toolkit

J : Pad used with puller 2405-T.

RECOMMENDED TOOLS**7103-T**

Spanner for the removal and fitting of lower ball joints

1892-T

Ball-joint puller

6322-T

Spanner for adjusting arm bearings

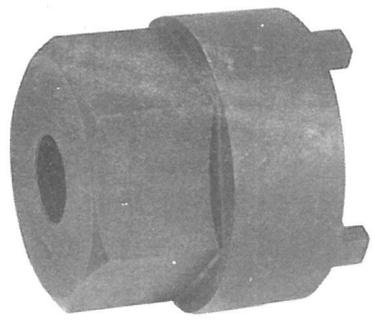
6308-T

Expanding end-piece, dia. 35 mm, for bearing cage

1671-T

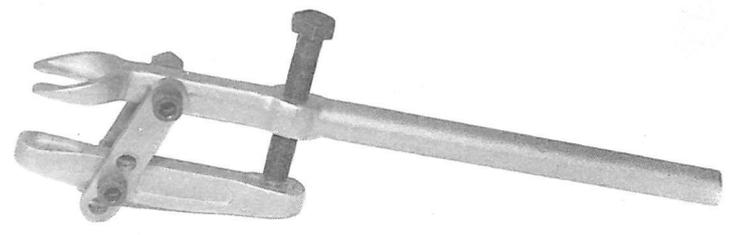
Inertia puller equipped with the 12 mm dia. expanding end-piece

7103 - T



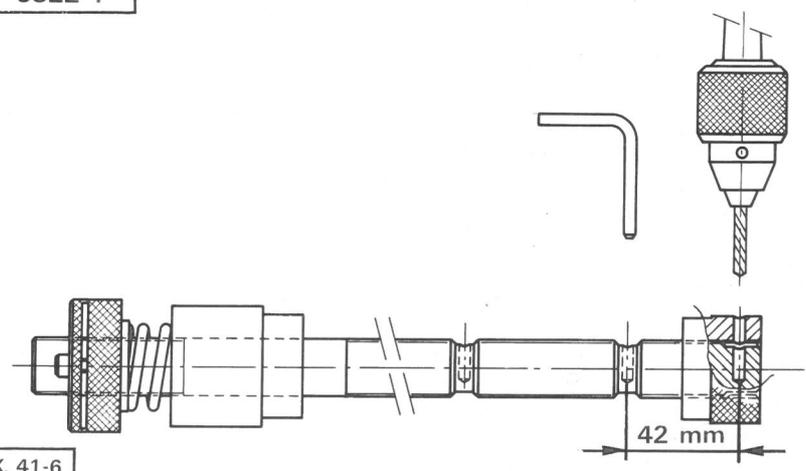
82-1900

1892 - T

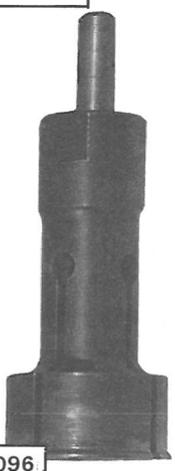


13-543

6322-T



6308 - T

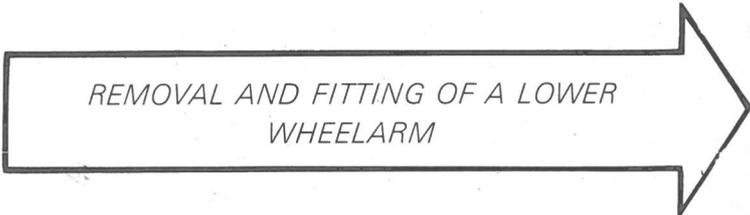


80-1096

1671 - T



76-923



REMOVAL AND FITTING OF A LOWER
WHEELARM

REMOVAL.

Jack up the vehicle with the front wheels hanging free.
Remove the wheel.
Set the height control to the « low » position.

Fig. I : Slacken nut (1) and release the ball-joint from the lower arm.

Use puller **1892-T**. *The nut should remain in place so as to protect the ball-joint stem.*

Fit the puller properly to avoid damage to the ball-joint rubber protector.

Remove nut (2) of the anti-roll bar track-rod : **Fig. III.**

Remove arm spindle rear nut (3) : **Fig. III.**

Remove spindle (4) from arm : **Fig. III.**

If necessary, use end-piece **7104-T** with inertia puller **1671-T** : **Fig. IV.**

Remove the arm.

FITTING.

Place the NYLSTOP nut **7 mm** from the end of the spindle and **smear** the spindle all along.

Place the arm with the cup washers facing the axle : **Fig. V.**

Fig. V : The adjustment shim (5) of the joint bearings should be fixed at the rear of the axle.

Fit the spindle with the cup washers (6) facing the nuts.

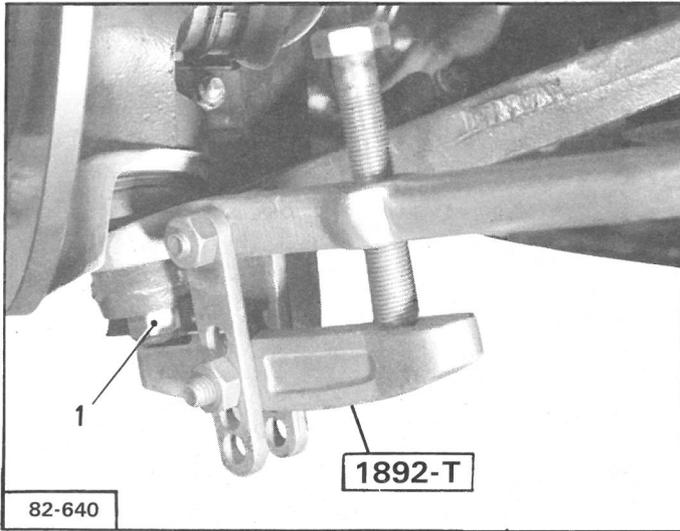
Tightening torque : 16 m.daN

Couple the ball-joints : Fig. IV

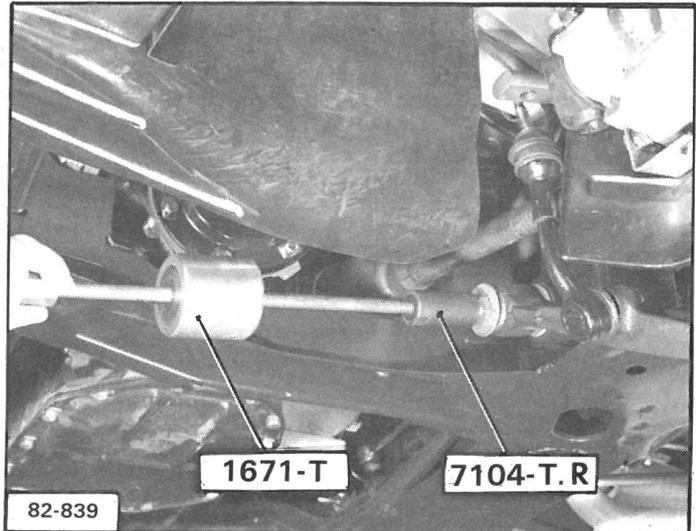
(*Ball-joint cones de-greased, do not use solvent*).

Fit new NYLSTOP nuts :

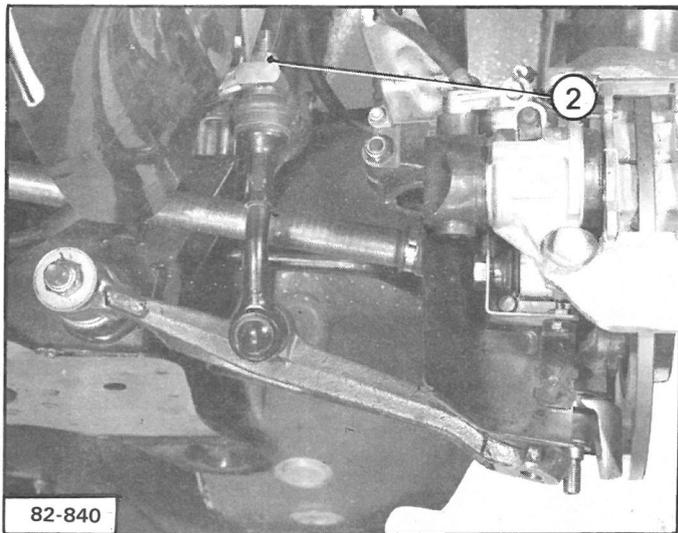
- Nut (2) Tightening torque = 4.5 m.daN
 - Nut (1) Tightening torque = 3 m.daN
- } **Fig. VI**



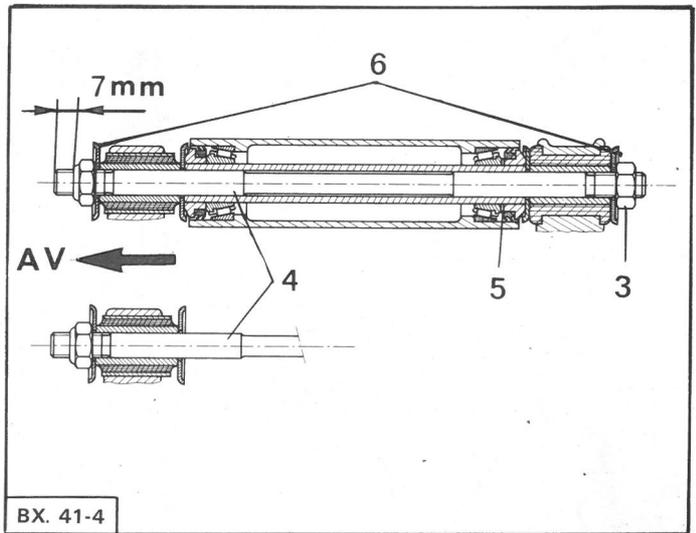
82-640



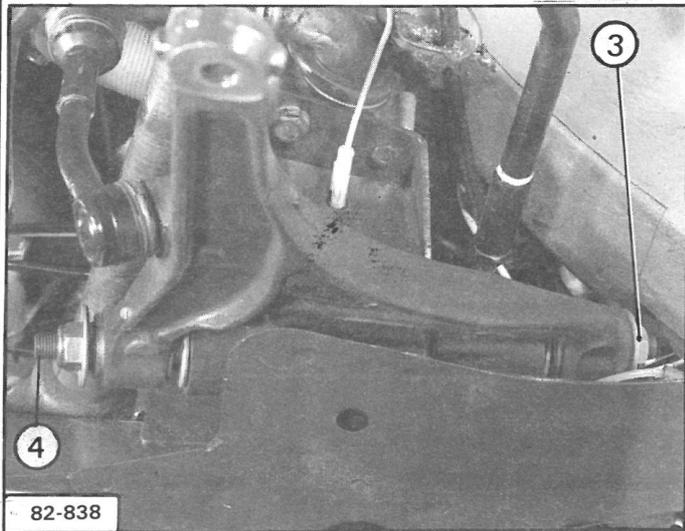
82-839



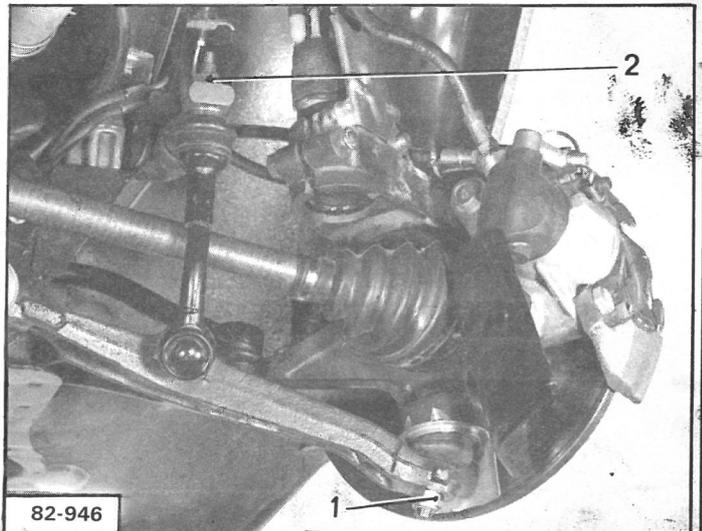
82-840



BX. 41-4



82-838



82-946

CITROËN ^

7

FRONT AXLE

XB
412-2

1

*REPLACING AND ADJUSTING THE BEARINGS
OF THE WHEELARM ARTICULATIONS*

REMOVAL

Remove the lower wheelarm (*see Op. XB. 412-1*).

Remove assembly (**A**), **Fig. I** :

- spacer,
- front inner race,
- spacer washer with its seal,

Use inertia extractor **1671-T**, **Fig. II**,

If necessary, lengthen the extractor with tools **7104-T.Q** and **R**.

Release, **Fig. III** :

- the spacer washers,
- the bearing inner races,
- the shim,
- the seals.

Take out the bearing outer races, **Fig. IV**.

Front race : Engage expanding mandrel **6308-T** using a soft hammer (without its axle).

Fit inertia extractor **1671-T** as well as the expanding mandrel axle.

Pull out the race.

Rear race : Fit expanding mandrel **6308-T** at the end of inertia extractor **1671-T**.

Push the bearing race back.

FITTING.

Fit the new bearing outer races (1), **Fig. V**, using tools **7104-T.J, K, L, N** and **P**.

Adjustment of the bearing free-play (*see page 5, XB. 412-2*).

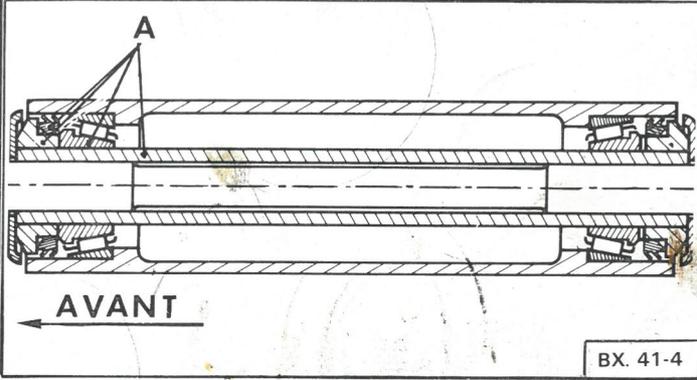
It is not necessary to carry out this adjustment when replacing the bearings, but it should be carried out when replacing the unit or the spacer, Fig. VI.

Fit, Fig. VI :

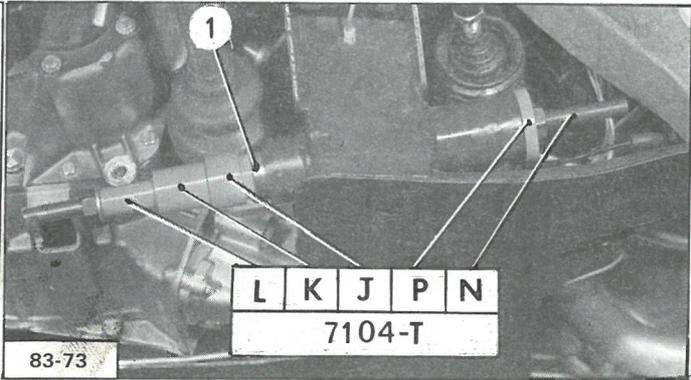
- the spacer,
- the bearing outer races (*new*),
- the shims,
- the spacer washers with their new seal (*observe the fitting direction*).

Tighten the assembly, **Fig. VII**.
use tools **7104-T.J, L, N** and **P**.

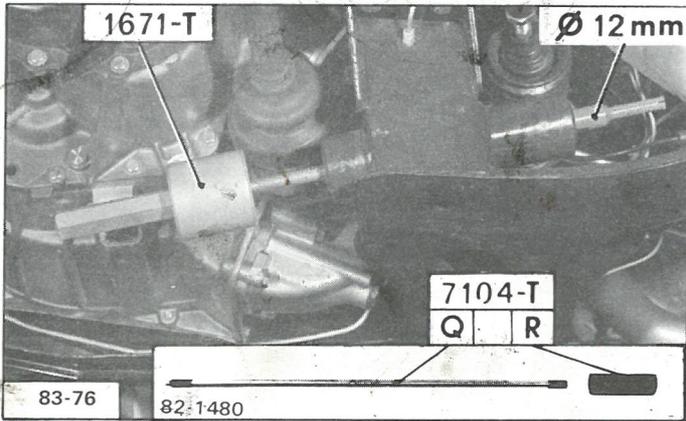
Fit the lower wheelarm :
(*See Op. XB. 412-1*).



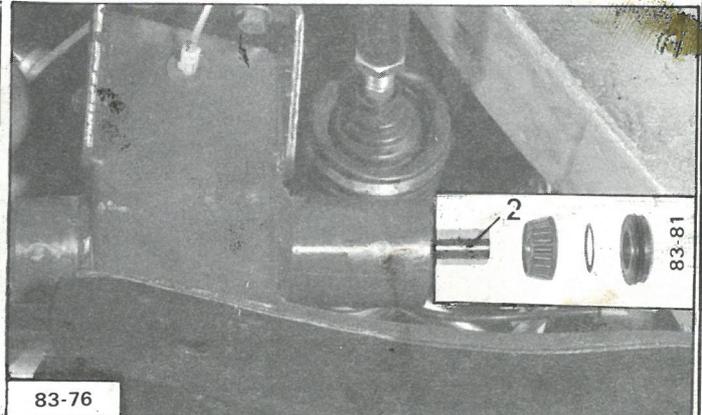
BX. 41-4



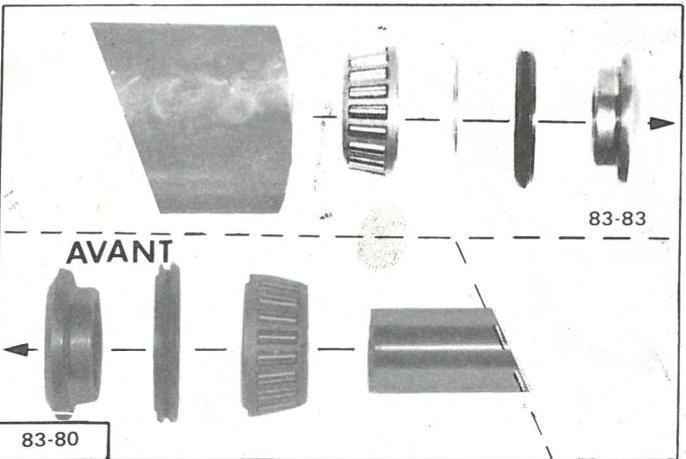
83-73



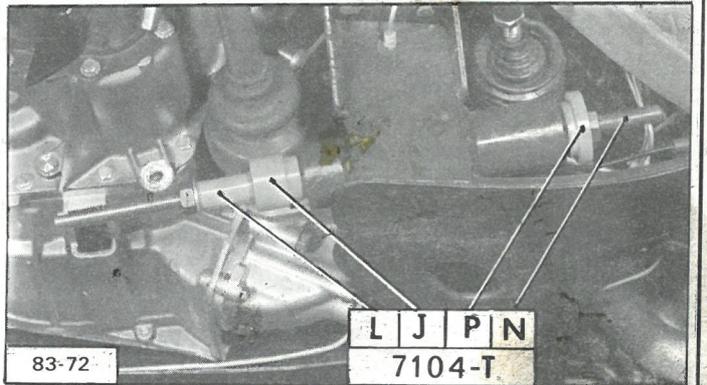
II



83-76

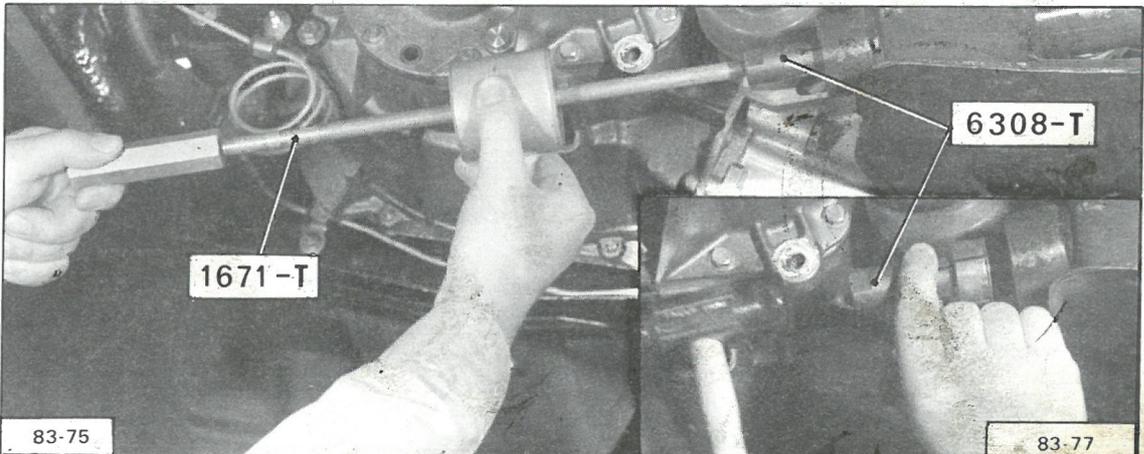


III



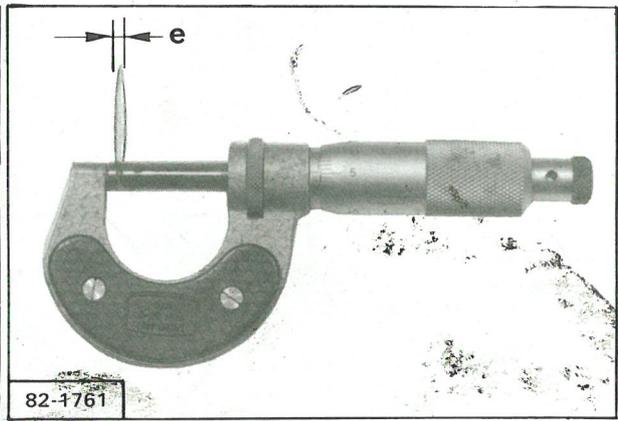
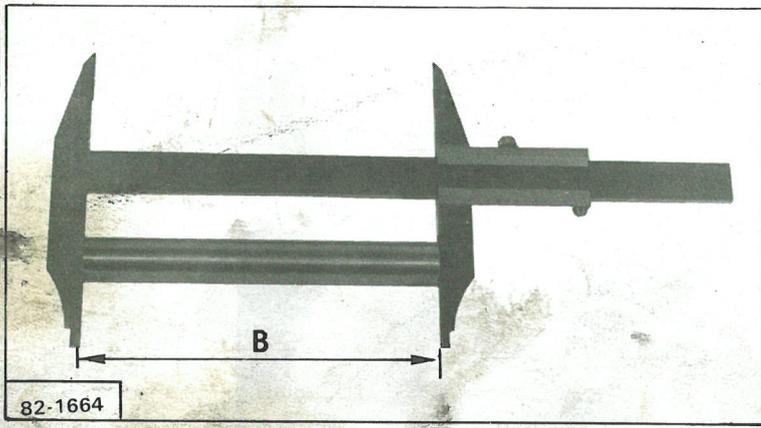
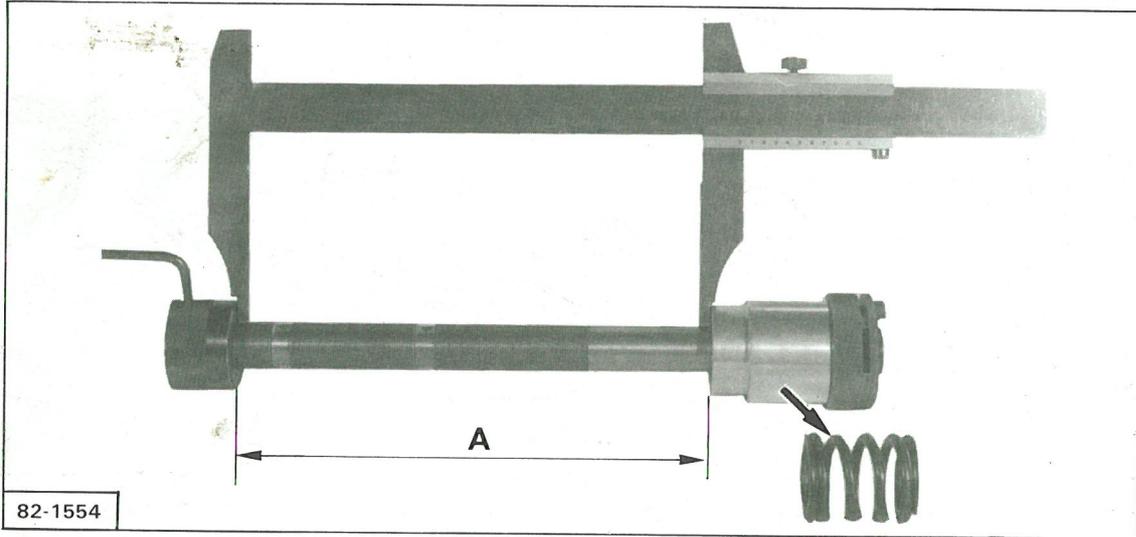
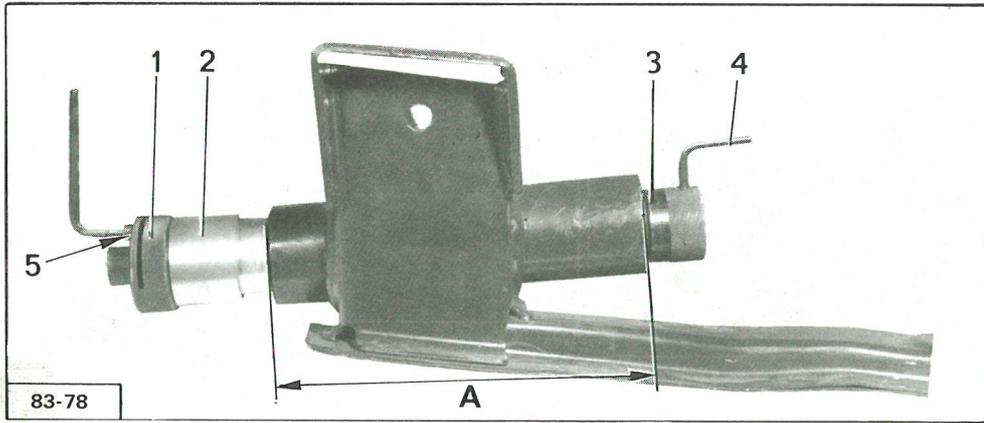
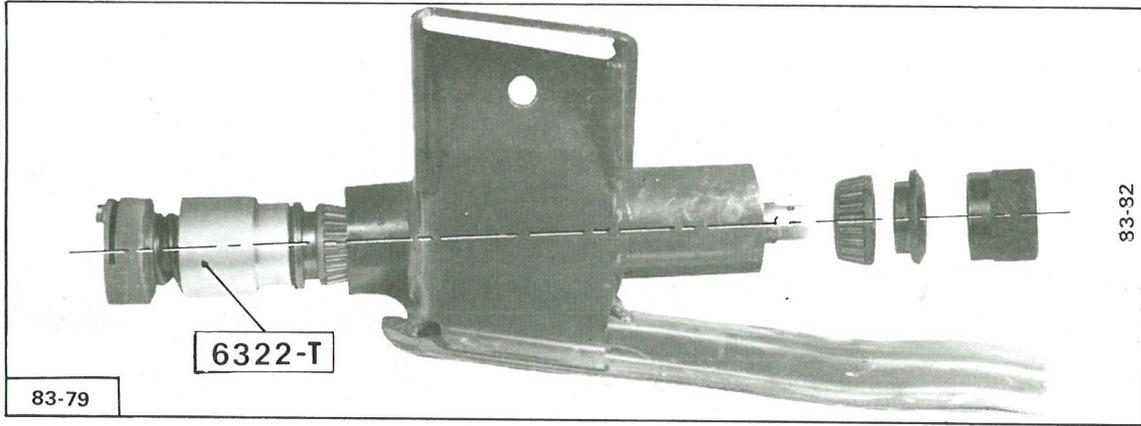
83-72

VII



83-77

IV



ADJUSTMENT

Offer up tool **6322-T** to the unit with the bearing inner races and spacer washers, **Fig. I.**

Screw up nut (3) and fit pin (4), **Fig. II**

Tighten nut (1). Make sure that the nut is in contact with bush (2), **Fig. II.**

Lock nut (1) using screw (5), **Fig. II**

Remove the assembly by unscrewing towards the side pinned.

Fit bush (2) and nut (3) with pin (4). **Do not fit the spring, Fig. II.**

Measure distance **A**, **Fig. III.**

Measure length **B** of the spacer, **Fig. IV.**

Determine thickness « **e** » of the adjustment shim, **Fig. V.**

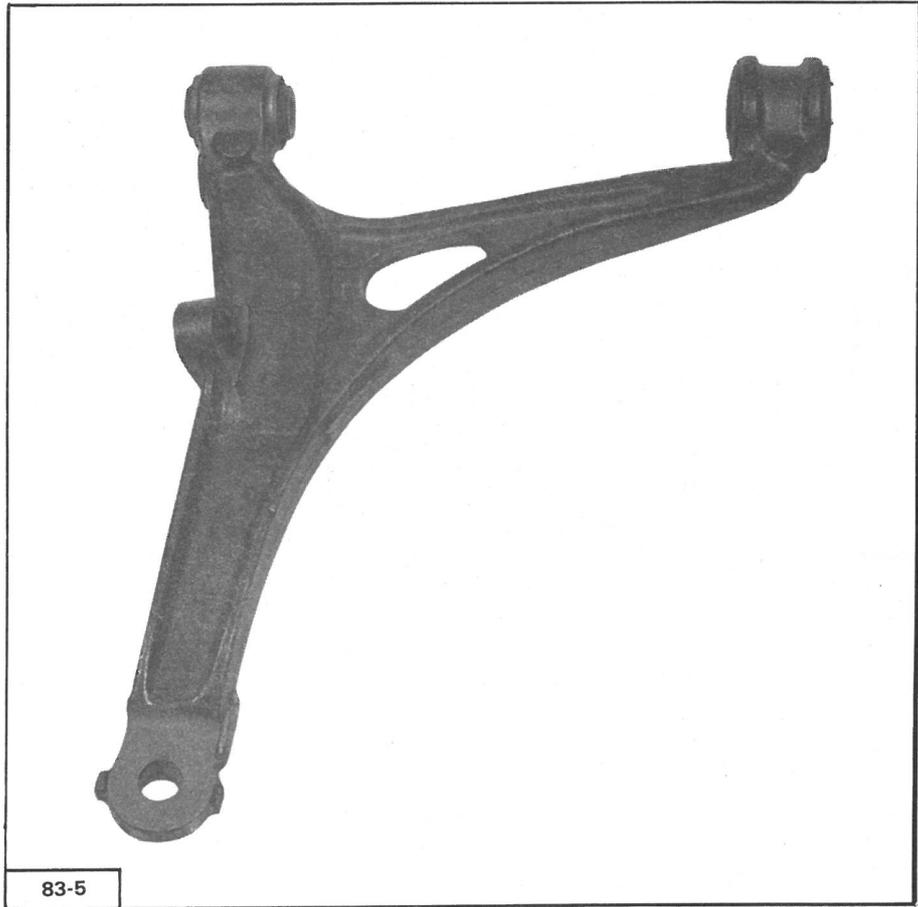
Bearing free-play 0.18 mm (from 0.14 mm to 0.22 mm) Adjustment shims (e) from 0.70 to 1.50 mm (in steps of 0.05 mm)

$X = B - A$ $e = X - 0.18 \text{ mm}$

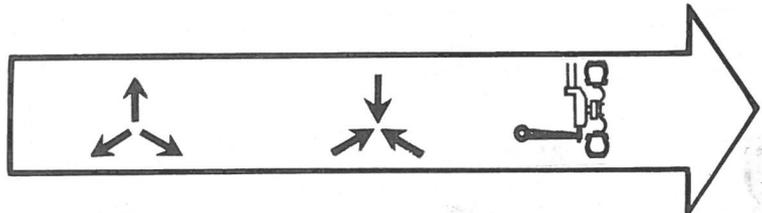
example :

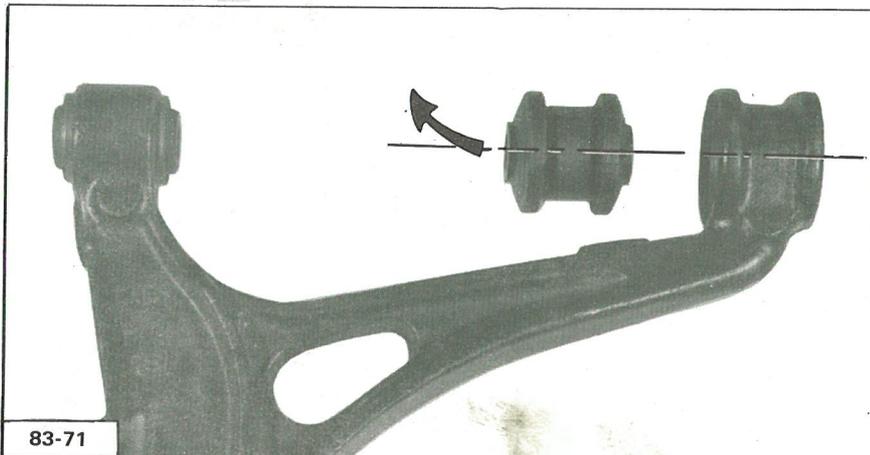
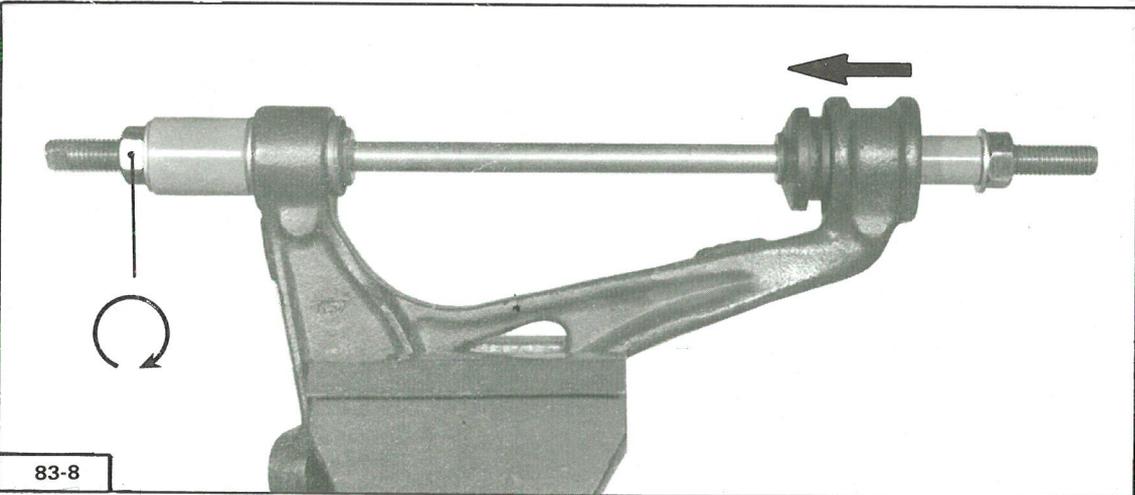
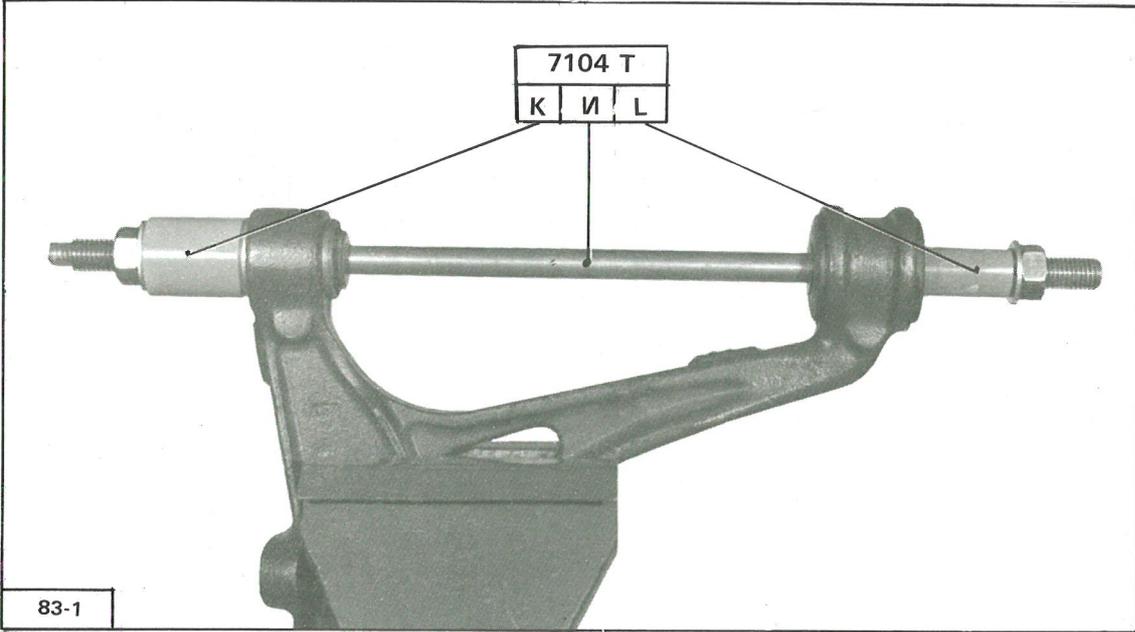
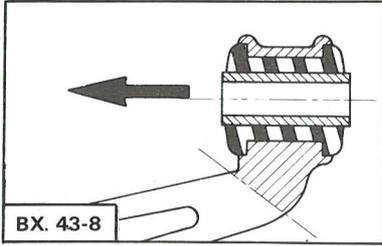
$$X = 190.40 - 189.22 = 1.18 \text{ mm}$$

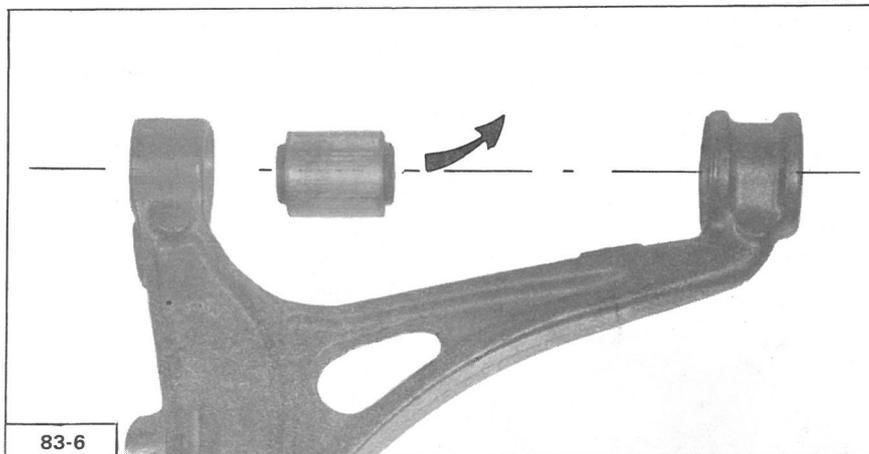
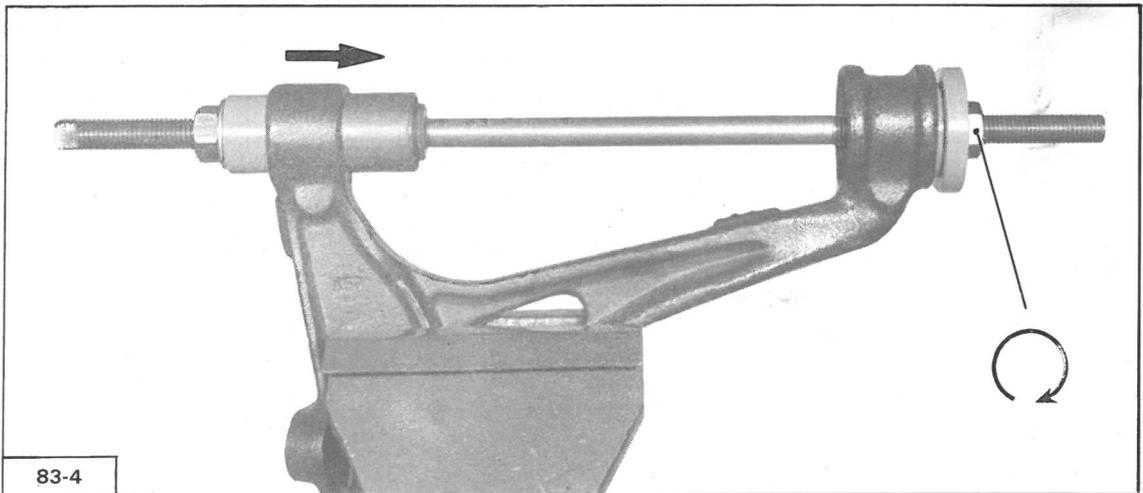
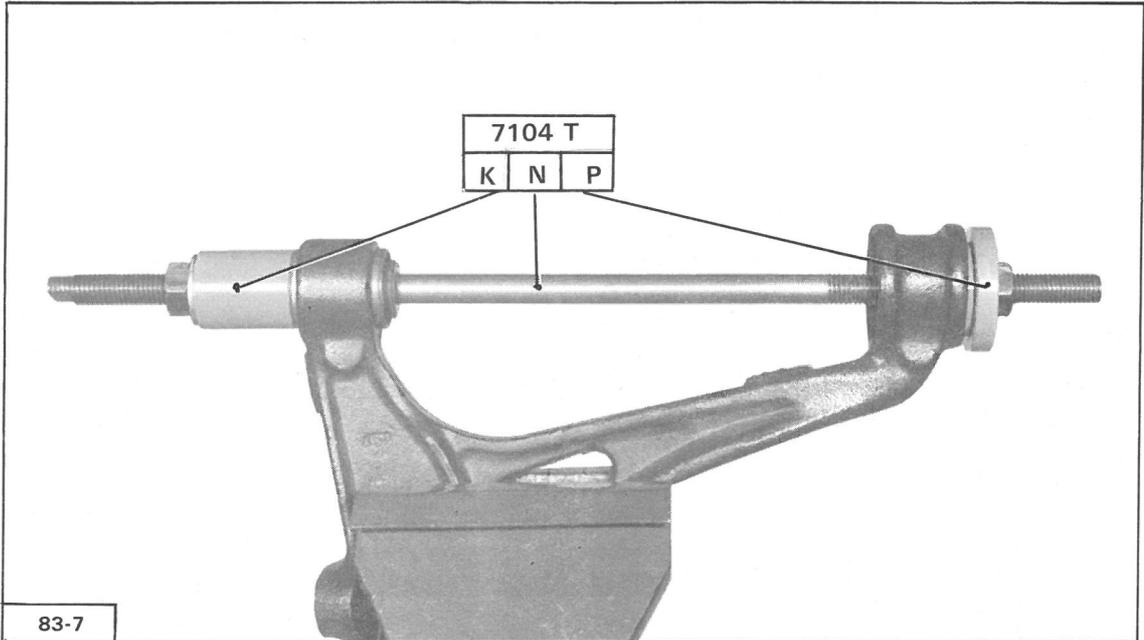
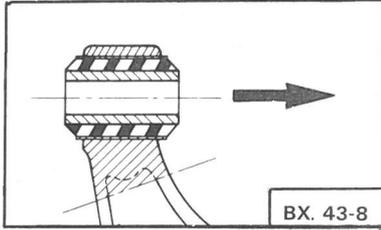
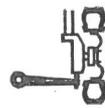
$$e = 1.18 - 0.18 = 1 \text{ mm.}$$

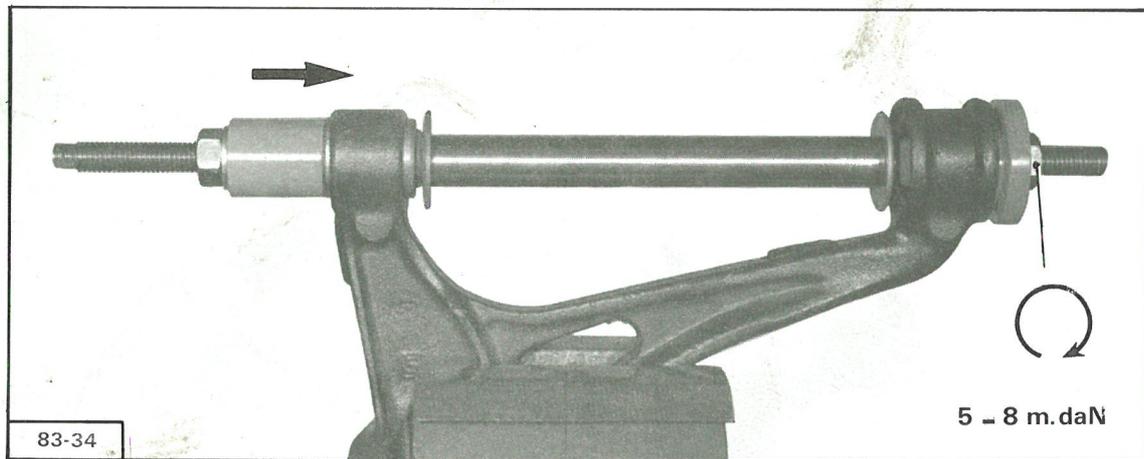
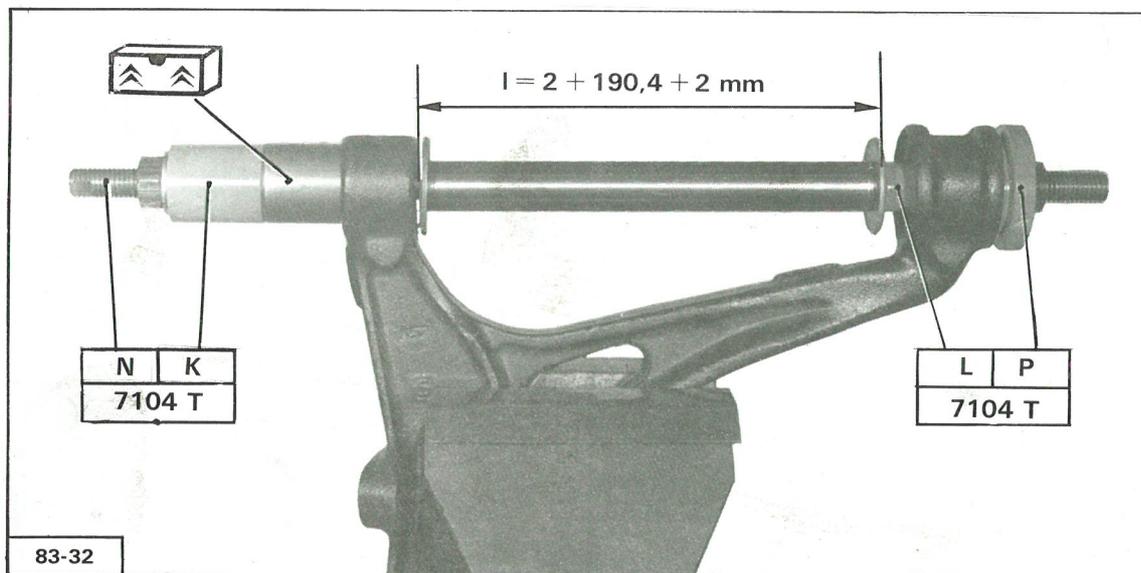
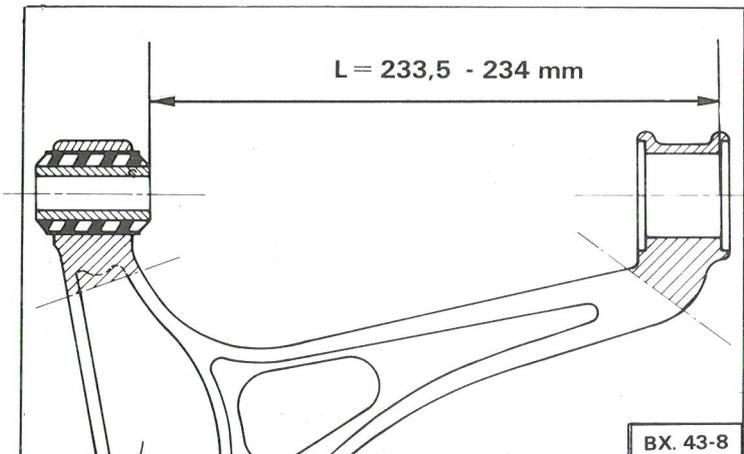


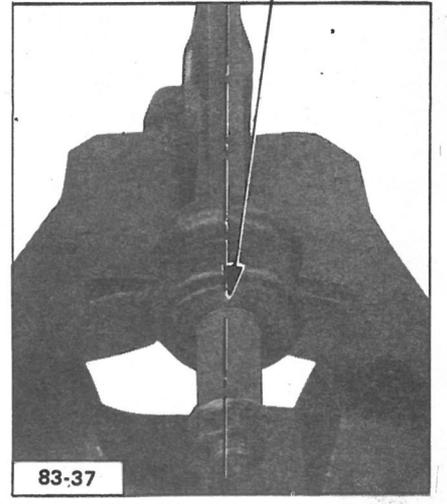
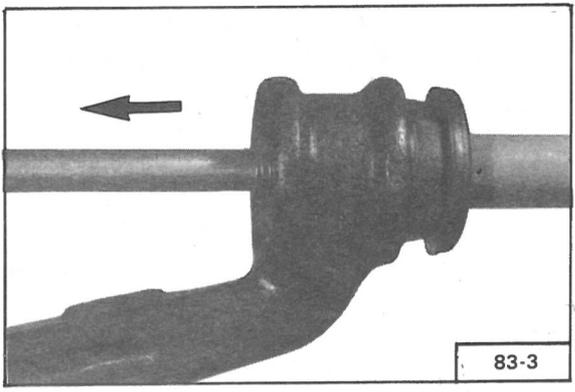
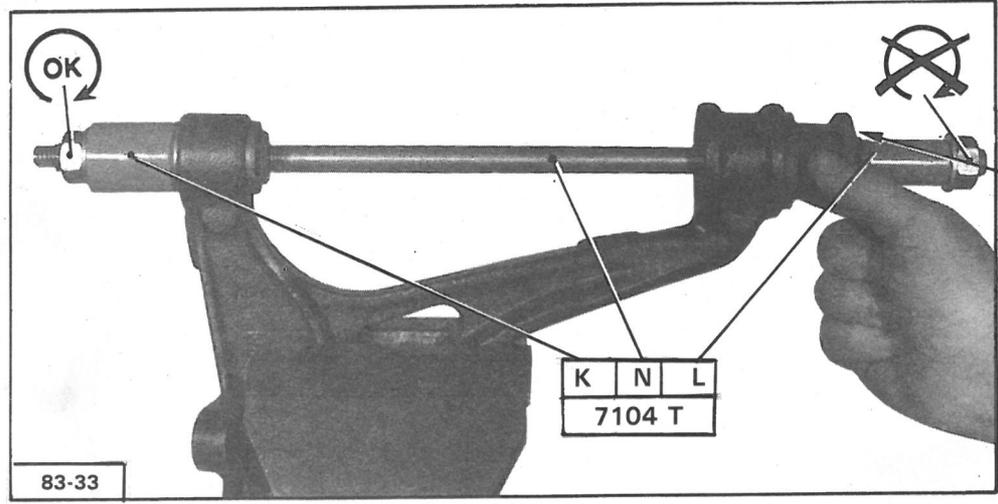
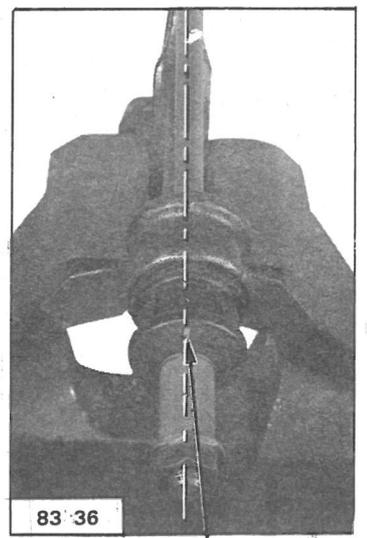
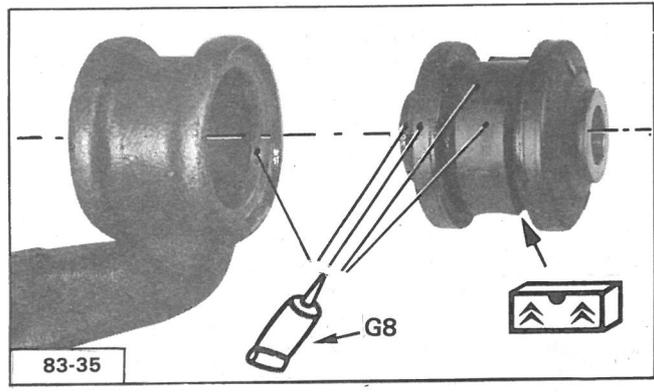
83-5











CITROËN 

7

FRONT AXLE

XB
413-1

1



WORKING ON SWIVEL

I. REMOVAL AND FITTING OF A SWIVEL

REMOVAL.

Chock the front of the vehicle with the wheels hanging free.

Remove the wheel.

Set the height control to the low position.

Keep handbrake released during the operation.

Remove pin, lockplate and nut **Fig. I** (width across flats : 35 mm).

It is imperative to use tool OUT 20 6310-T, so as to avoid shearing the disc retaining screws. Fit the tool using wheel screws.

Remove screws (1) of the brake flexible hose bracket, deflector (3) and the two caliper attachment screws (2) : **Fig. II.**

Suspend caliper : **Fig. III.**

Undo nut (4) **Fig. IV.**

Uncouple the steering ball-joint from the swivel using puller **1892-T.**

The nut should remain in place so as to protect the ball-joint stem.

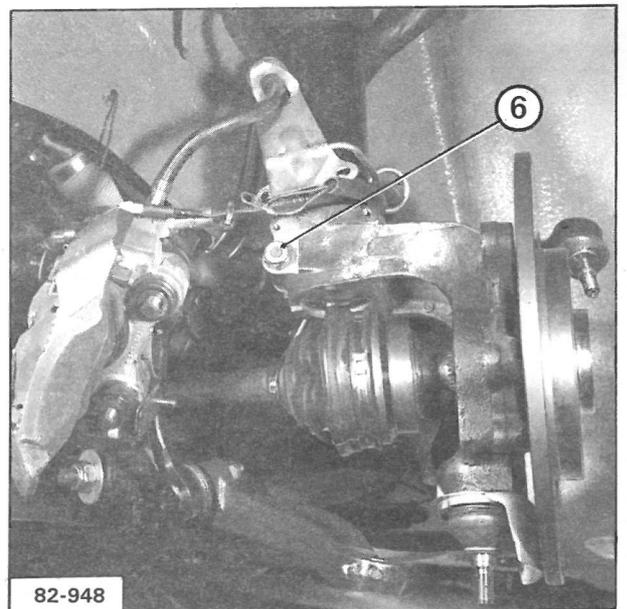
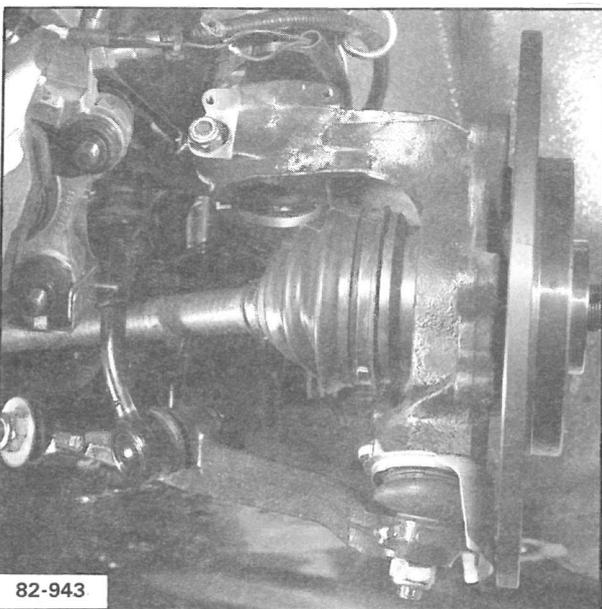
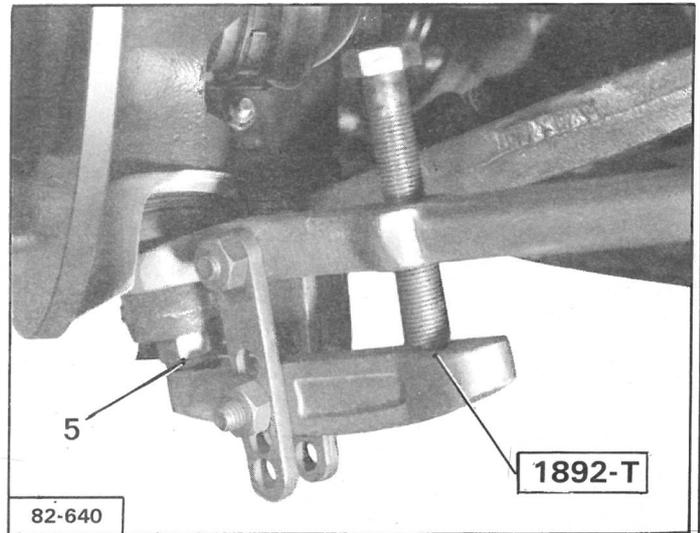
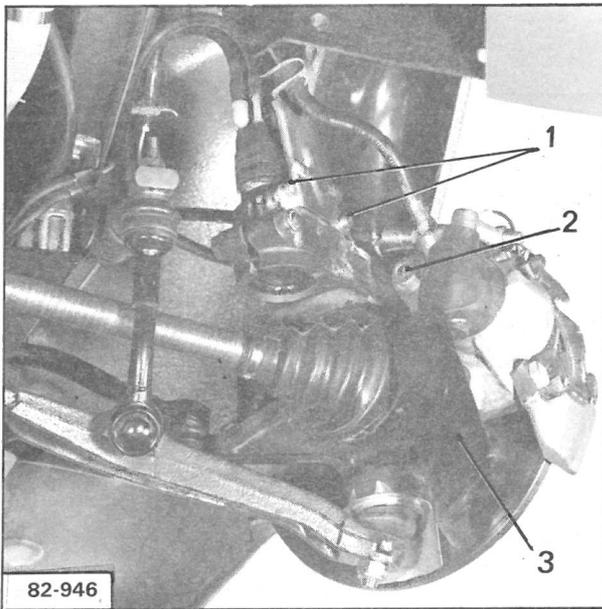
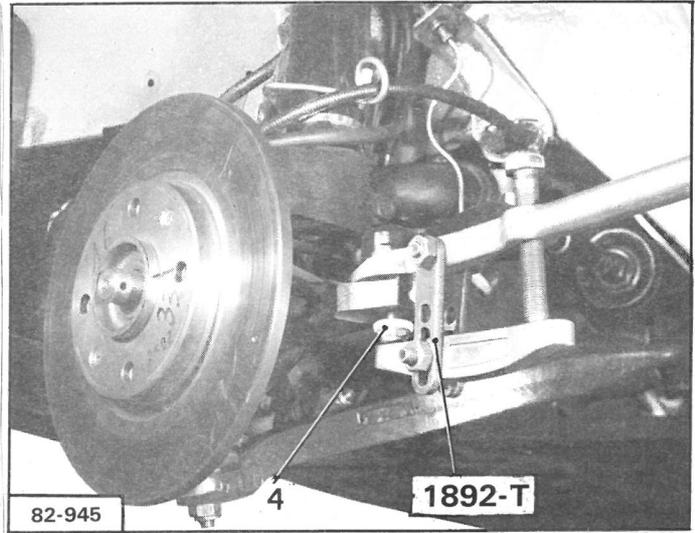
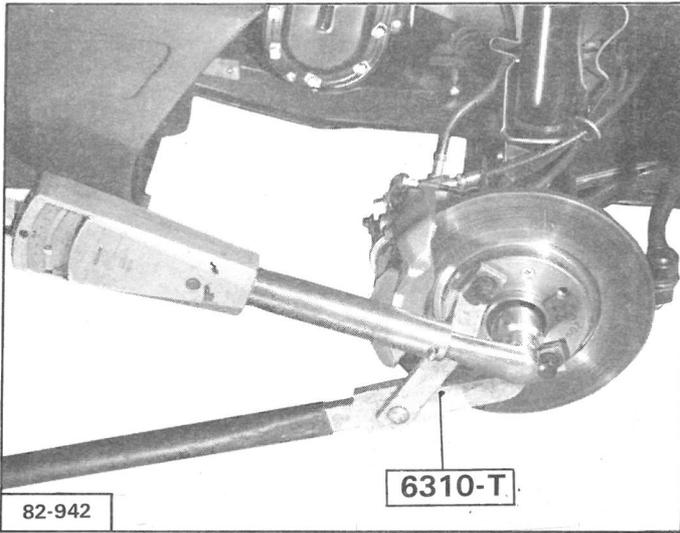
Position the puller properly to avoid damaging the ball-joint rubber protectors.

Slacken nut (5) : **Fig. V.**

Disconnect the swivel ball-joint from the lower arm, using puller **1892-T.**

The nut should remain in place so as to protect the ball-joint stem.

Disengage driveshaft from hub and remove screw (6) : **Fig. IV.**



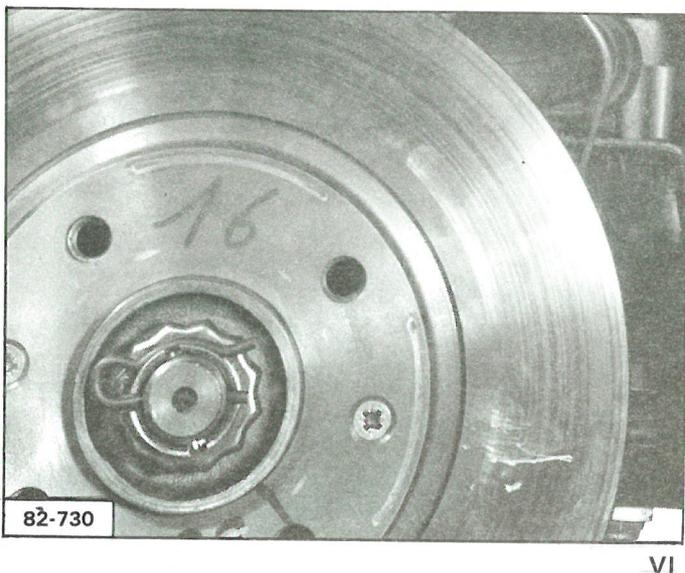
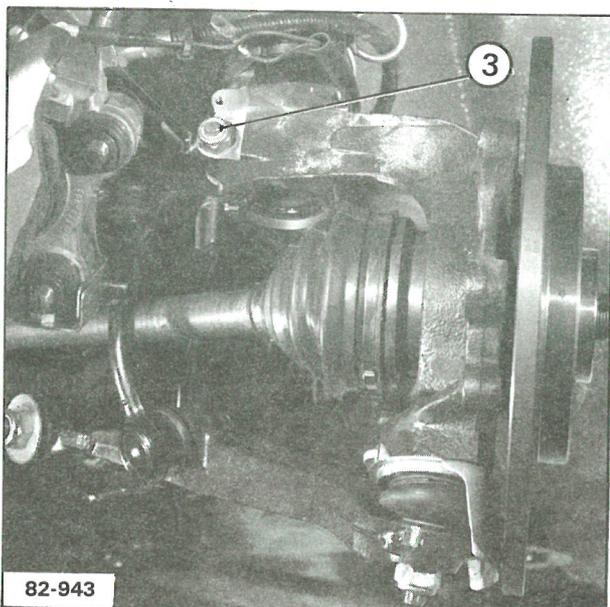
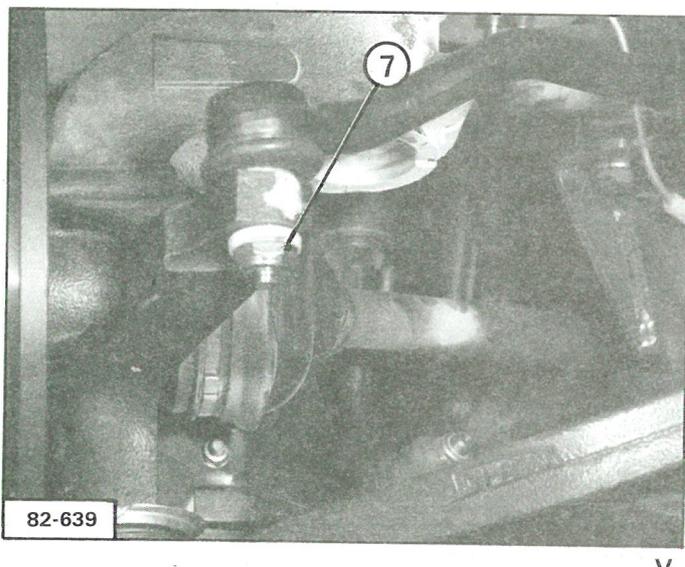
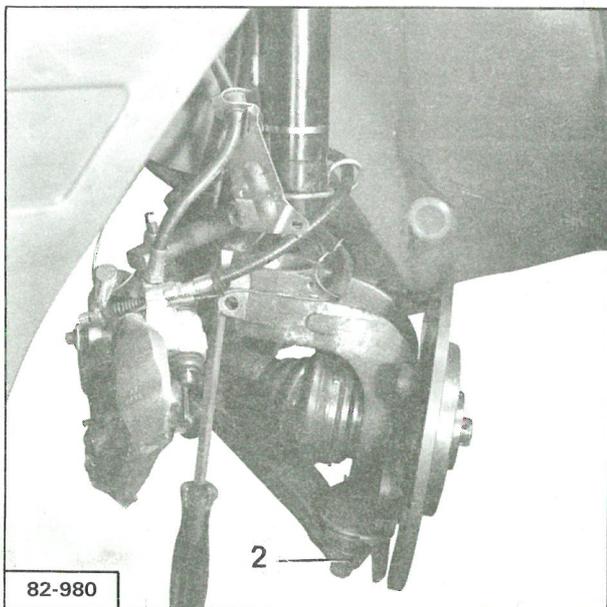
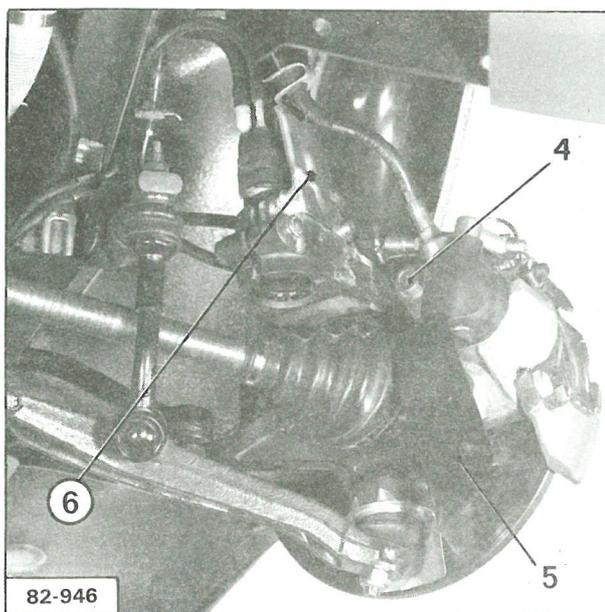
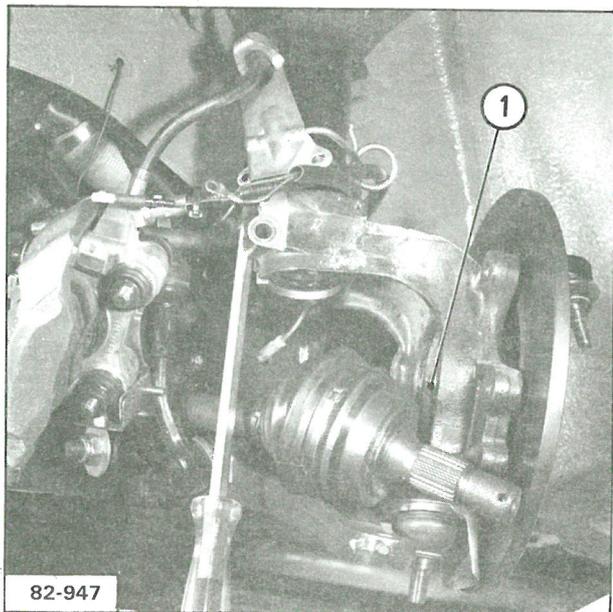
IV

II

V

III

VI



Spread apart the upper section of the swivel with a screwdriver and remove the swivel : **Fig. I.**

FITTING.

Grease seal lips (1) **Fig. I.**

Spread apart the upper section of the swivel.

Fit the driveshaft and the lower ball-joint : **Fig. II.**

(*Wipe the ball-joint stem, do not use solvent.*)

Install the new NYLSTOP nut (2).

Tightening torque : 3 m.daN

Insert the suspension element home into the upper section of the swivel and centre the tenon in the swivel slot.

Remove the screwdriver and fit screw (3) **Fig. III** (new NYLSTOP nut).

Tightening torque : 7 m.daN

Position the brake caliper into place **Fig. IV** (it might be necessary to push the brake piston, *see Operation 453-1*).

Tighten the two screws (4) to 13 m.daN

Fit deflector (5) and the brake flexible hose bracket (6) together with the pads earthing wire.

Couple the steering ball-joint **Fig. V.**

(*Wipe the ball-joint stem, do not use solvent.*)

Fit the new NYLSTOP nut (7).

Tightening torque : 3.8 m.daN

Position the driveshaft nut, with faces and threads greased.

Tightening torque : 27 m.daN

Place the lock-plate and pin **Fig. IV.**

Fit the wheel.

II. REMOVING AND FITTING A SWIVEL BALL-JOINT WITHOUT REMOVING THE SWIVEL

This operation can be carried out provided a manual impact wrench, DYNAPACT, FACOM TYPE, Fig. V is used, and no other.

REMOVAL.

Jack up the front of the vehicle with the wheels hanging free.

Remove the wheel.

Set the height control to the low position.

Loosen nut (1) Fig. I.

Uncouple the swivel ball-joint from the lower wheel arm Fig. II using puller 1892-T.

The nut should remain in place so as to protect the ball-joint stem.

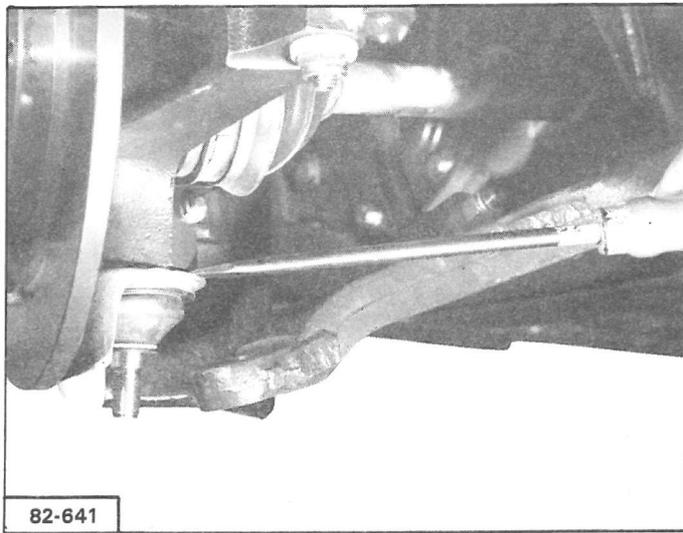
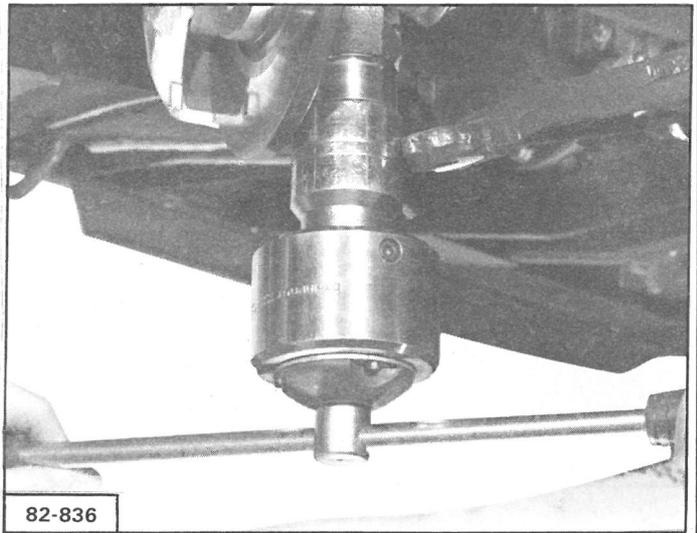
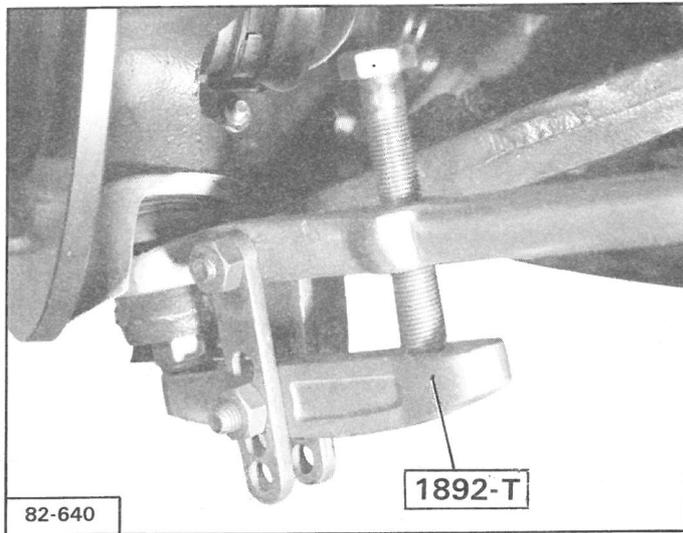
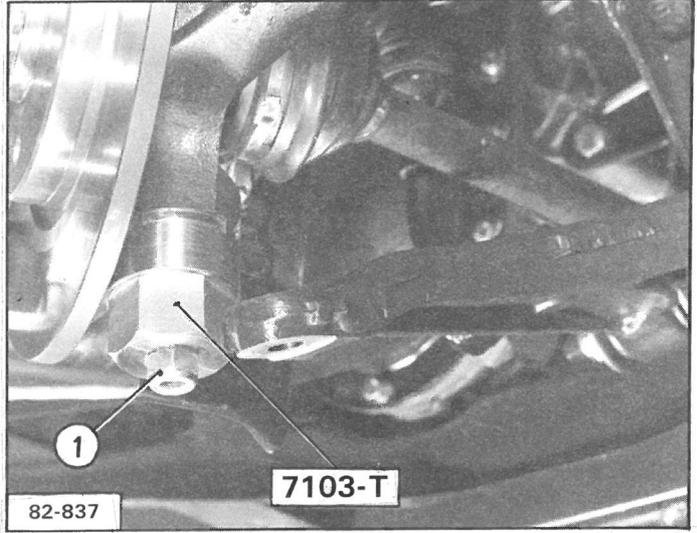
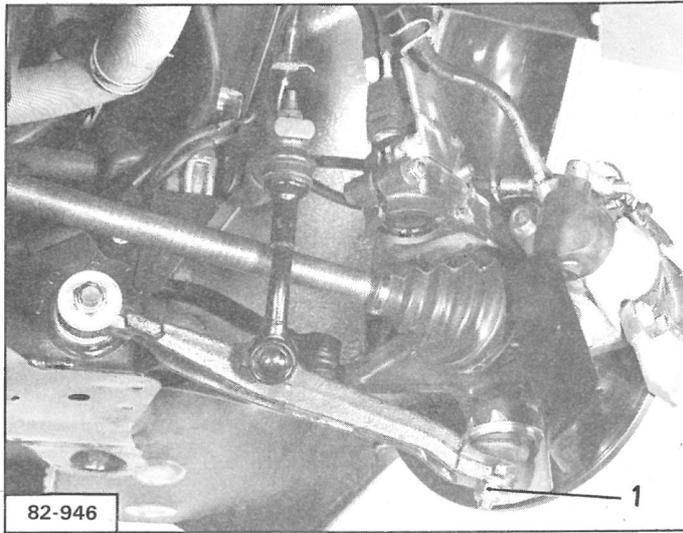
Position the puller properly to avoid damaging the ball-joint rubber protector.

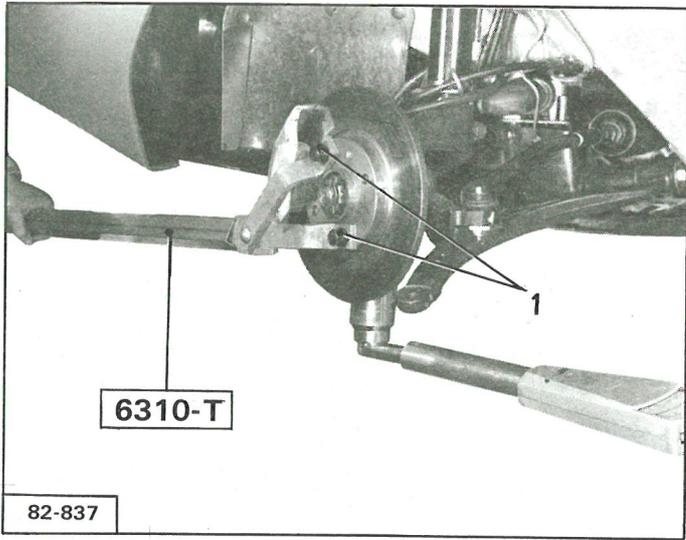
Remove the heat protective plate of the ball-joint rubber with a screwdriver Fig. III.

Remove the ball-joint.

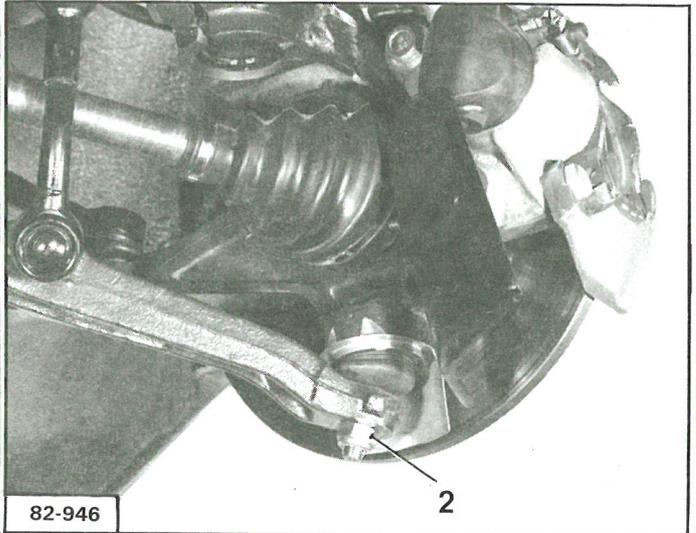
Place tool 7103-T onto the ball-joint and **secure it with nut (1) Fig. IV.**

Undo the ball-joint (socket width across flats : 42 mm) Fig. V.

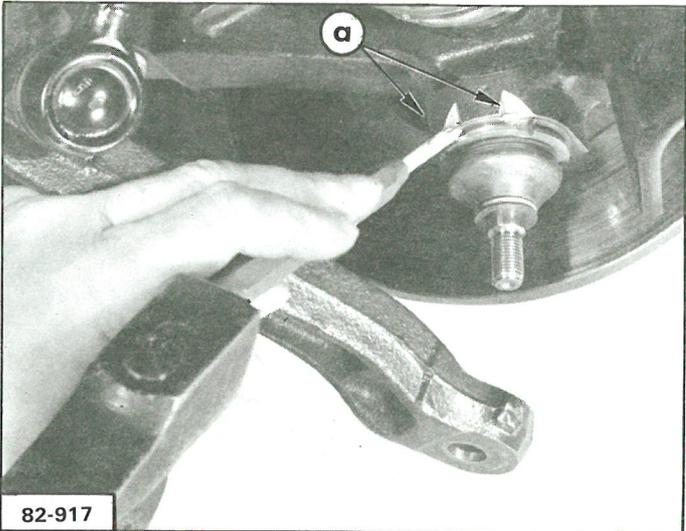




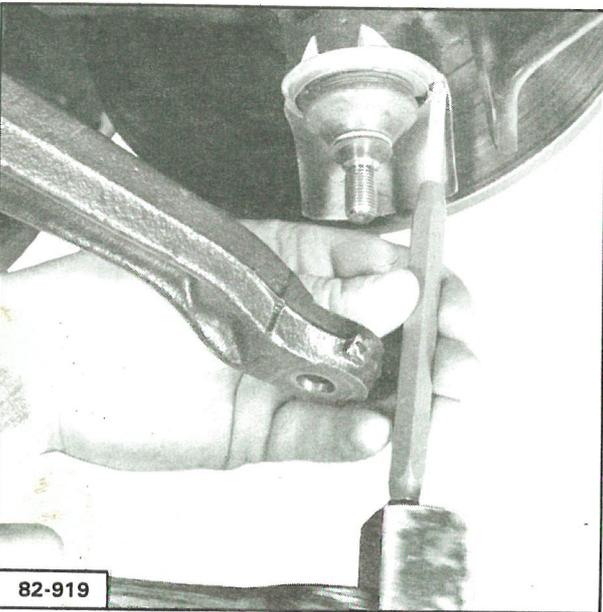
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II



82-919

FITTING.

Insert the ball-joint in tool **7103-T**.
Put the assembly into place.

Avoid damage , even slight, to the ball-joint rubber.

Tighten the ball-joint.

Position tool **6310-T** and tighten wheel screws (1).

Prevent the swivel from rotating while tightening the ball-joint Fig. I.

Tightening torque : 27 m.daN

Lock ball-joint in notches « a » by peening over of metal
Fig. II.

Refit the heat protective plate of the ball-joint rubber
Fig. III.

Couple the ball-joint to the lower wheel arm **Fig. IV.**

Wipe the ball-joint stem, do not use solvent.

Do up the new NYLSTOP nut (2).

Tightening torque : 3 m.daN

Fit the wheel.

III. REPLACING A SWIVEL BEARING.

REMOVAL.

Chock the front of the vehicle with the wheels hanging free.

Remove the wheel.

Set the height control to the low position.

keep handbrake released during the operation.

Remove pin, lockplate and nut. **Fig. I** (width across flats : 35 mm).

Tool OUT 20 6310-T must be used.
Fit it using the wheel screws.

Remove Fig. I :

- outlet brake pad (1),
- screws (2) and brake disc.

Loosen nut (3), **Fig. II.**

The nut should remain in place so as to protect the ball-joint stem.

Rotate the steering wheel to position puller OUT 20 1892-T properly in order to avoid damaging the ball-joint rubber protector, Fig. II.

Uncouple the swivel ball-joint from the lower wheelarm.

Disengage driveshaft from hub.

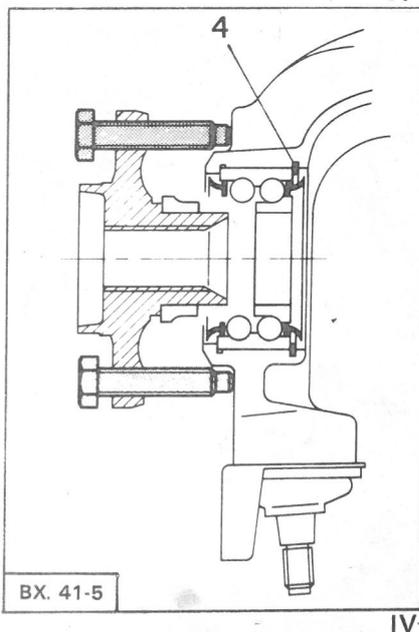
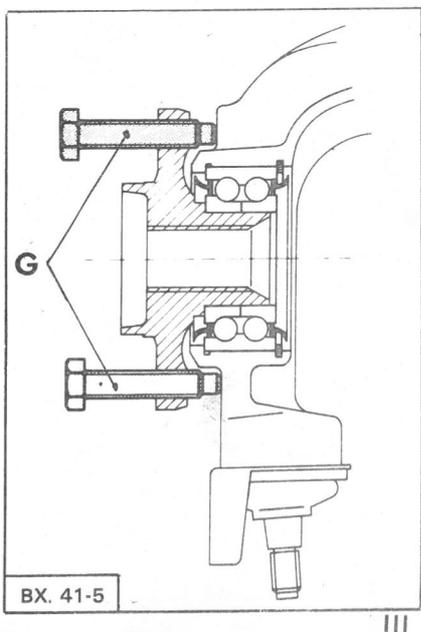
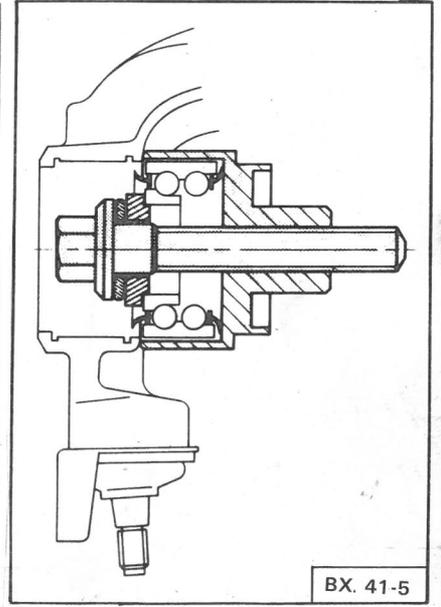
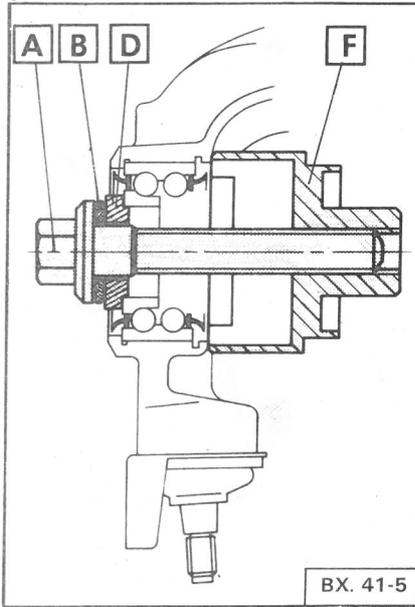
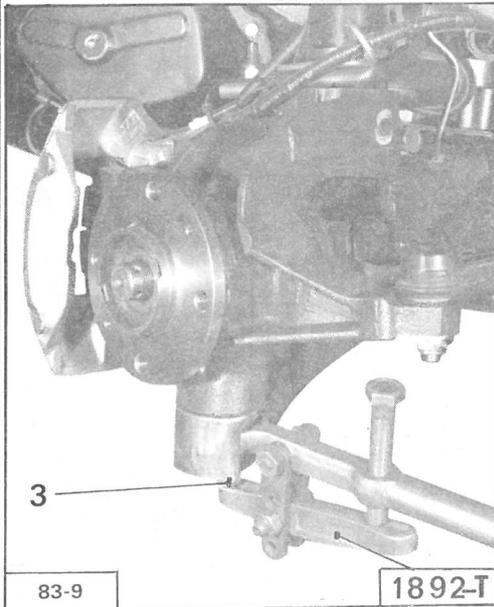
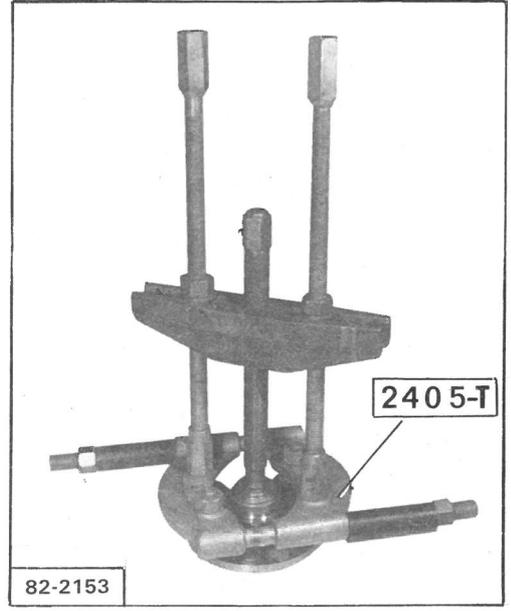
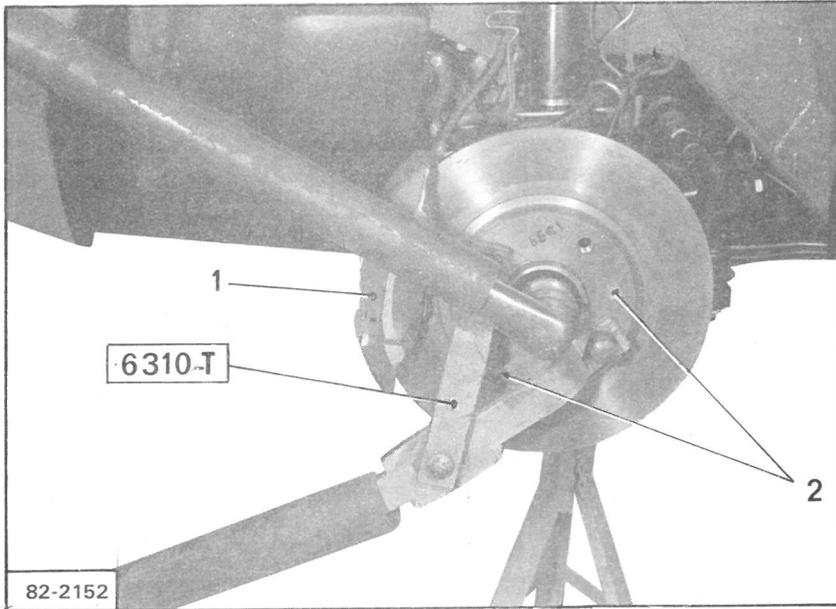
Remove hub (*using the two G screws from kit OUT 30 7104-T*) **Fig. III and IV.**

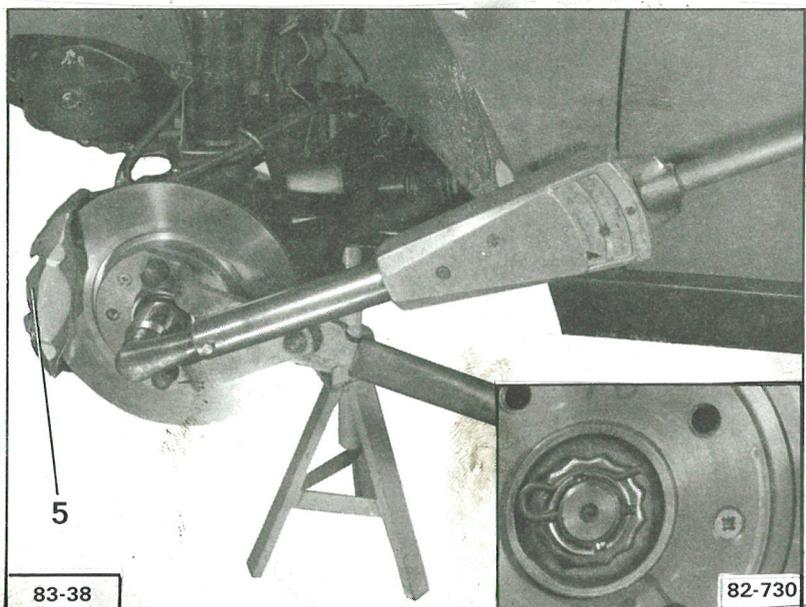
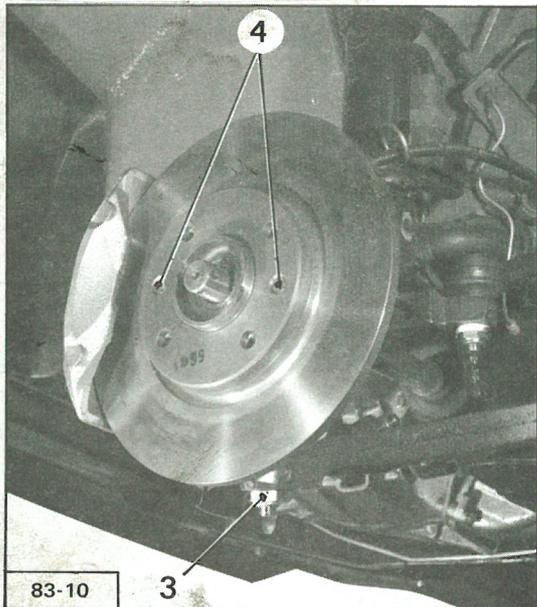
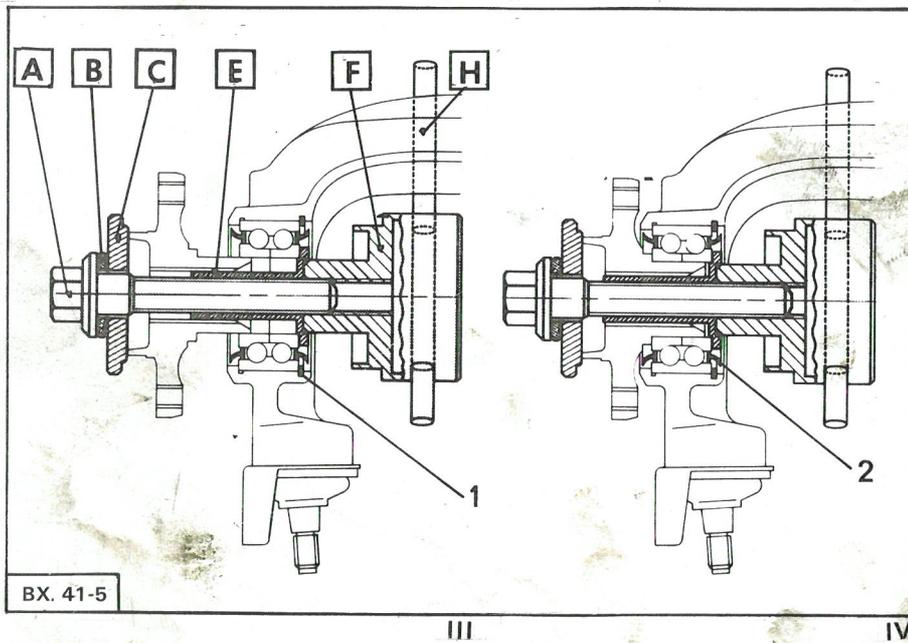
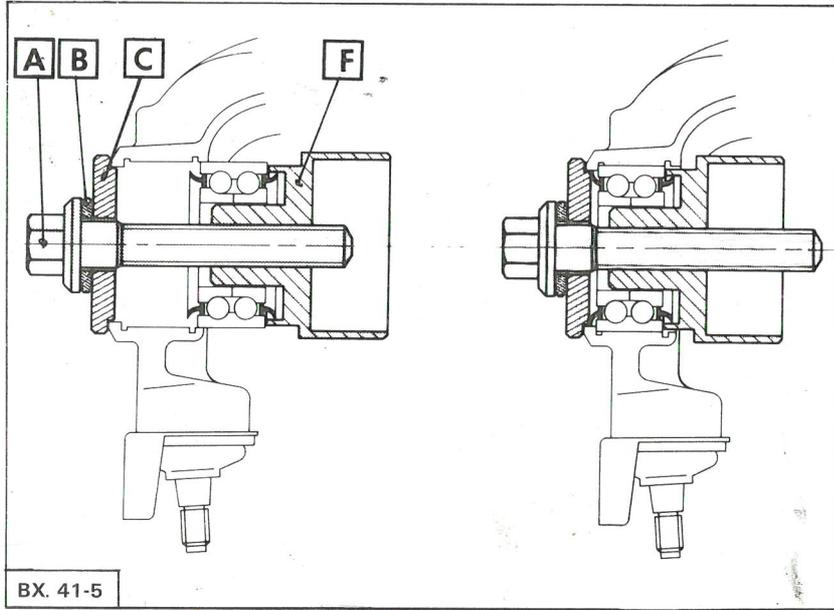
Pull the bearing inner race **out** of hub (*use tool 2405-T*) **Fig. V.**

Remove circlip (4), **Fig. IV.**

Remove bearing (*use tools A, B, D and F from kit OUT 30 7104-T*), **Fig. VI and VII.**

Grease friction washer B, Fig. VI.





FITTING.

Grease (*TOTAL MULTIS MS*) friction washer **B**. **Fig. I.**

Fit the new bearing (*use tools A, B, C and F from kit OUT 30 7104-T*). **Fig. I and II.**

Fit circlip (1) (*see that it is properly positioned in the groove*) **Fig. III.**

Fit wheel hub, previously greased (*use tools A, B, C, E, F and M from kit OUT 30 7104-T*) **Fig. III and IV.**

Grease seal lips (2), **Fig. IV.**
Spread apart the swivel upper section.

Put driveshaft and inner ball-joint, **Fig. V** into place.
(*Wipe the ball-joint stem, do not use solvent*).
Install the new NYLSTOP nut (3).

Tightening torque : 3 m.daN

Fit brake disc and the two screws (4), **Fig. V.**

Fit the outer brake pad (5) **Fig. VI.**

Fit the driveshaft nut (*face and threads greased*).
Tightening torque : 27 m.daN, Fig. VI
(*Use tool OUT 20 6310-T*).

Place lockplate and pin, **Fig. VII.**

Operation number	DESCRIPTION
XB. 420-00	Rear axle characteristics and special features
XB. 422-1	Rear suspension arm removal and fitting
XB. 422-3	Rear suspension arm reconditioning
XB. 424-1	Reconditioning and fitting a rear axle, complete   
XB. 426-1	Rear hub removal and fitting

*REAR AXLE
CHARACTERISTICS AND SPECIAL FEATURES*

CHARACTERISTICS

Inspection and adjustment conditions

With the vehicle in « normal running » position, engine idling, check the height at **central parts**.

Front height : 160 ± 8 mm, measurement from front unit rear crossmember to the surface on which the vehicle is standing.

Rear height : 214 ± 8 mm, measured from the rear unit crossmember tube to the surface on which the vehicle is standing.

- | | |
|---|--------------------|
| - Wheel alignment (<i>not adjustable</i>) | Toe-in : 0 to 4 mm |
| - Camber angle (<i>not adjustable</i>) | - 9' ± 20' |

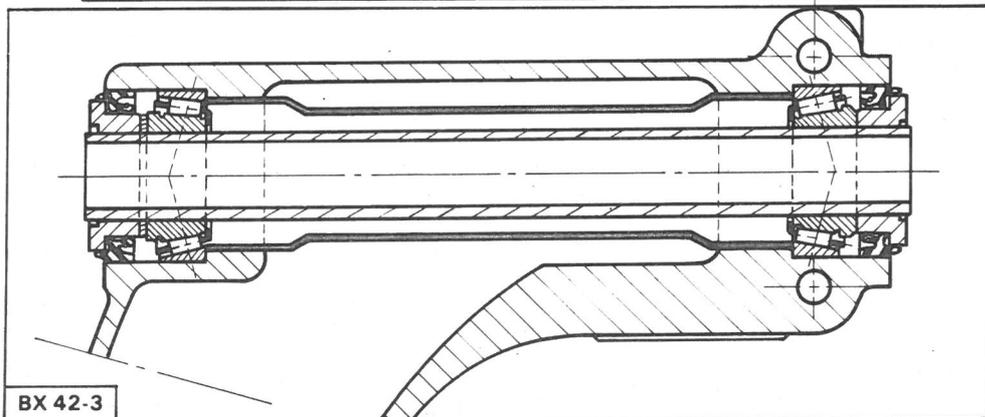
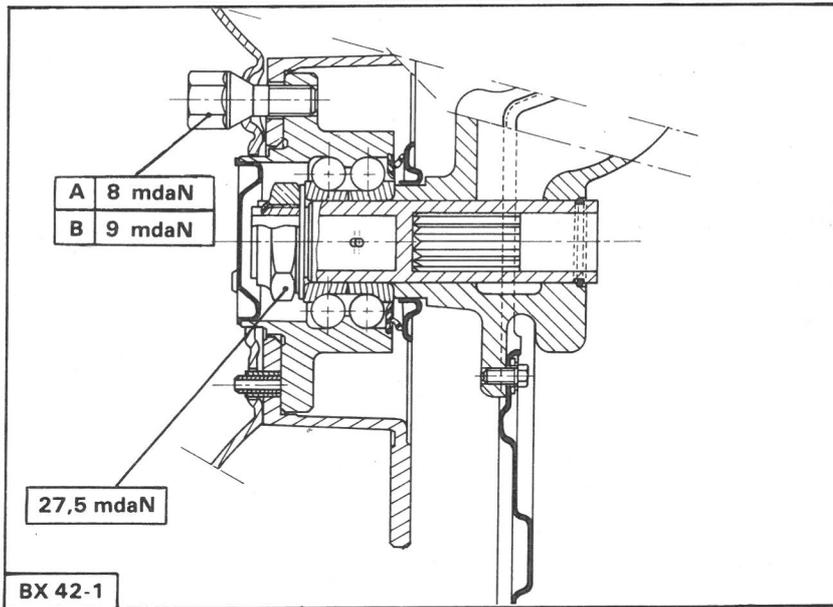
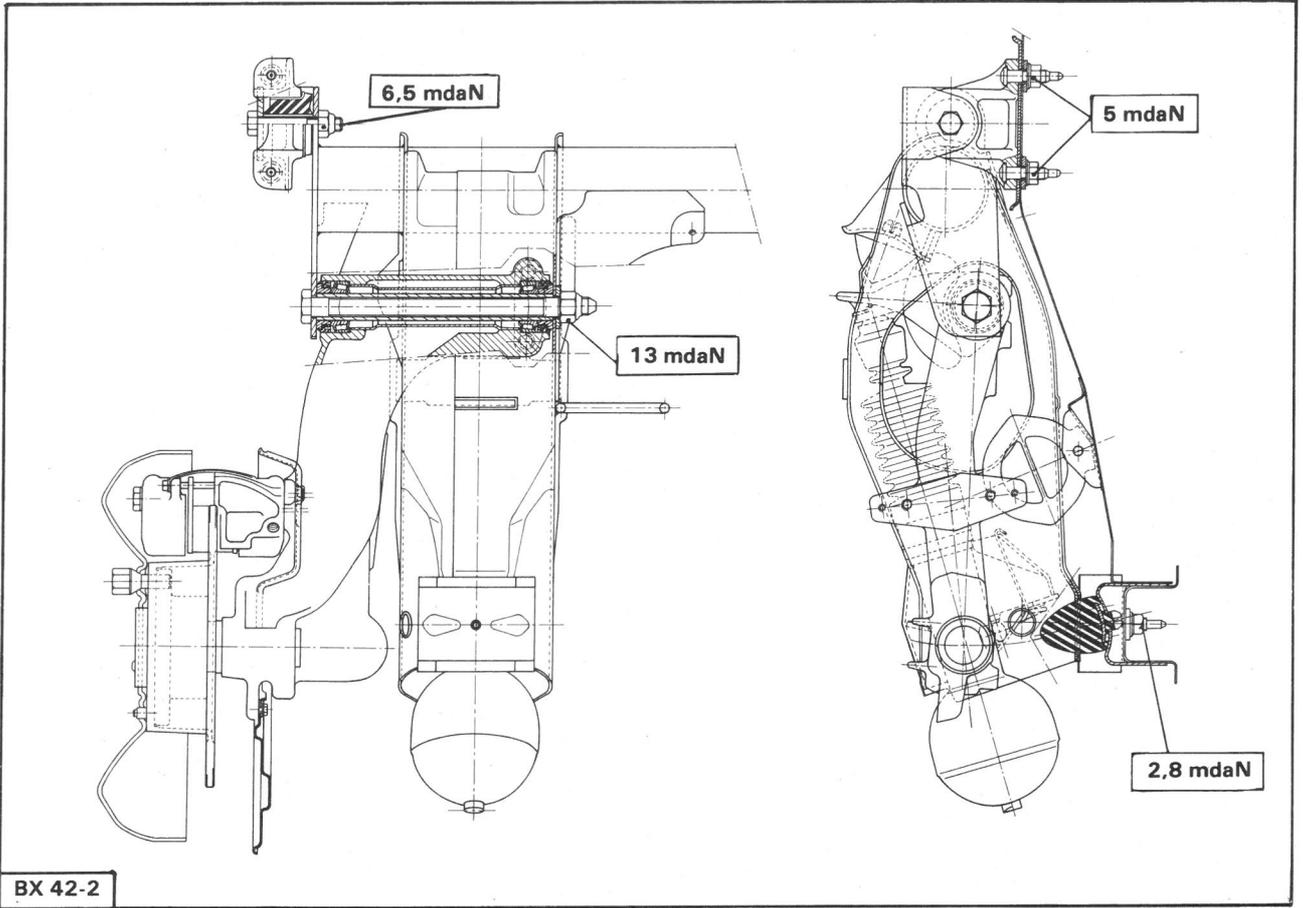
SPECIAL FEATURES

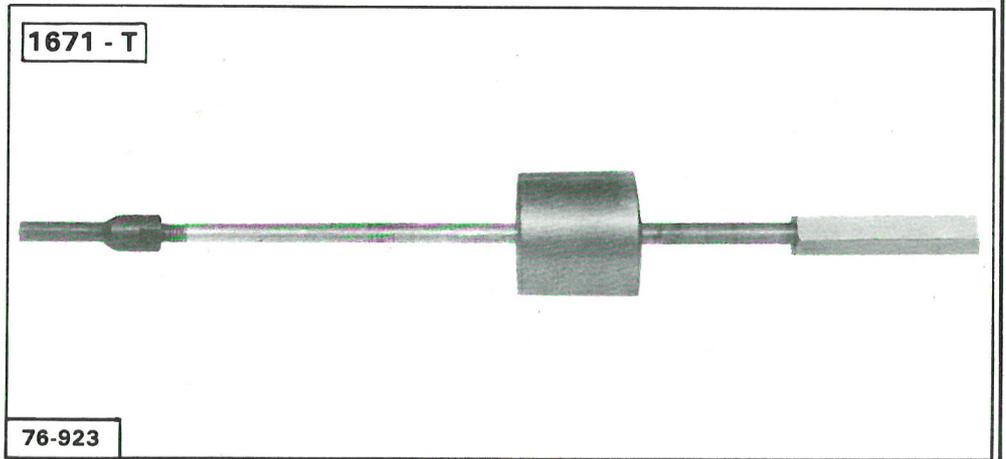
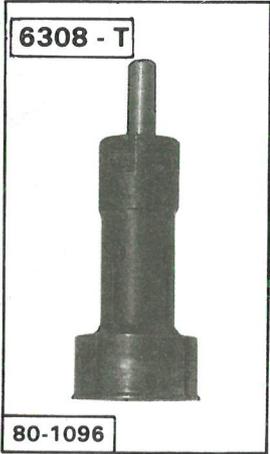
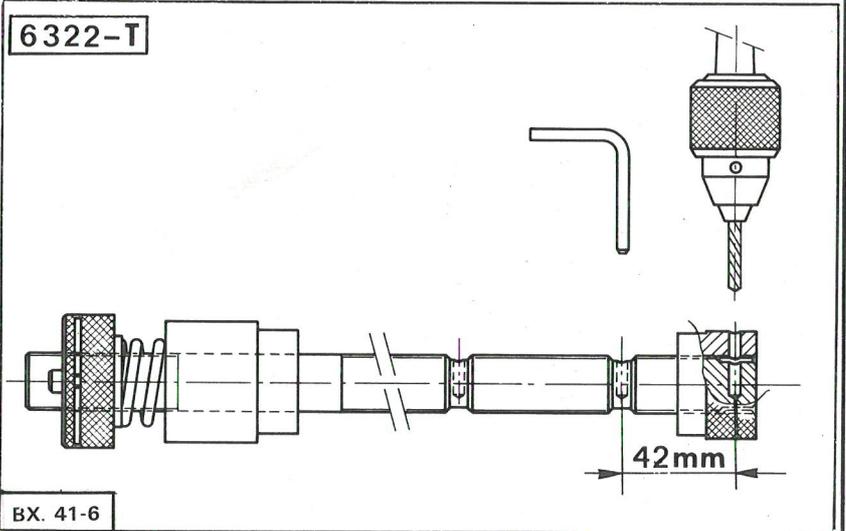
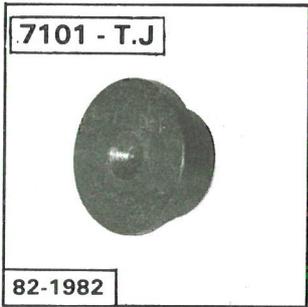
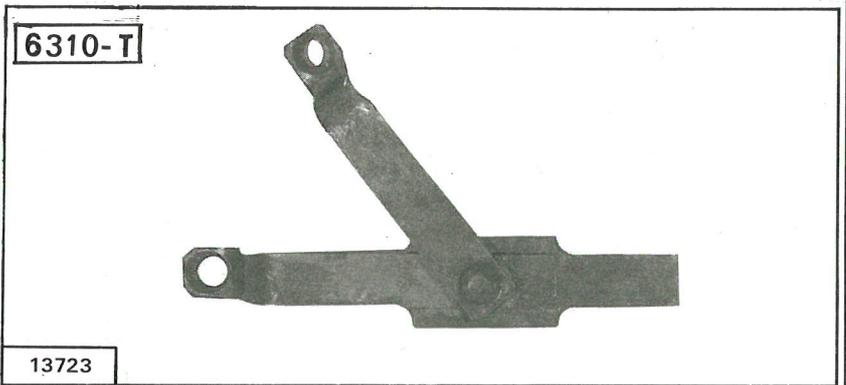
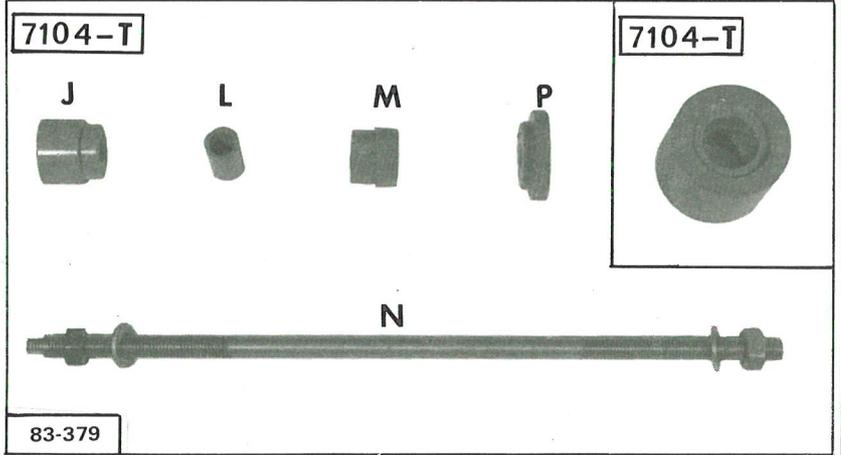
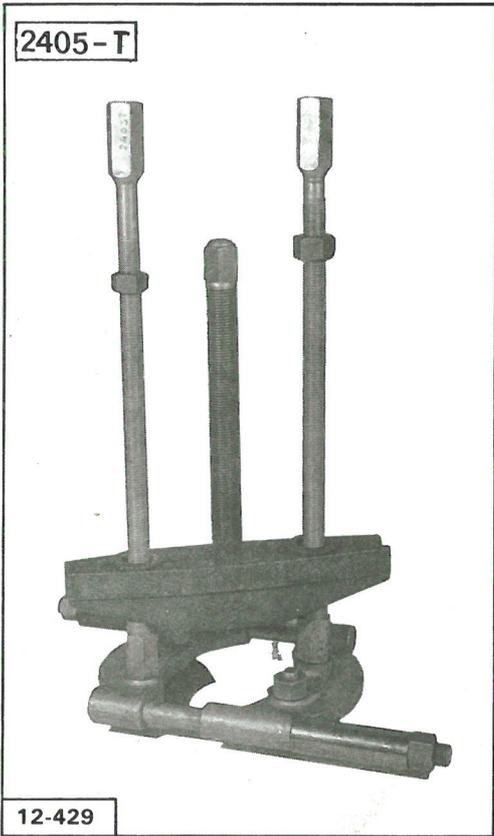
- | | |
|---|----------------------|
| - The axle to body attachment is ensured by means of four « silent bloc » bushes. | |
| - Free play at the wheelarm spindle tapered bearings | 0.17 to 0.30 mm |
| - Wheelarm spindle adjusting shims | From 0.15 to 0.95 mm |
| (<i>level with the outer bearing</i>) | |

Wheel nut tightening torque values :

- | | |
|--------------------------------|---------------|
| A Steel rim | 8 mdaN |
| B Light alloy rim | 9 mdaN |

When carrying out an operation which necessitates the removal of **light alloy** wheels, smear the wheel centring bore with « TOTAL MULTIS » **grease**.





RECOMMENDED TOOLS

2405-T :

Puller with separator.

From kit **OUT 30 7101-T**, use :
tool **7101-T.J**.

Pad to be used with puller **2405-T**.

6308-T, reference : OUT 30 6308-T.

Expanding end piece, dia. 35 mm, for bearing race.

From kit **OUT 30 7104-T**, use :

J : Spacer

L : Tube

M : Spacer

N : Threaded rod, dia. 14 mm with nuts and washers

P : Spacer

7106-T, reference : OUT 30 7106-T :

Dolly block for fitting the seal thrust cup of rear hub.

6322-T, R.P. reference : OUT 30 6322-T.

Tool for arm bearing adjustment.

Tool modification :

Drill the tool 42 mm from existing hole using the nut as a guide (i.e. after engaging the nut by 42 threads).

1671-T

Inertia puller fitted with the expanding end piece dia.
12 mm.

CITROËN 

8

REAR AXLE

XB
422-1

1

*REAR SUSPENSION ARM
REMOVAL AND FITTING*

REMOVAL

Jack up the rear of the vehicle with the wheels hanging free.

Remove the wheel.

Release pressure actuating the pressure regulator : set the height control to the « down » position.

Disconnect the brake unit feed hose from union (2) and clip (1), **Fig. I.**

Extract pin (3) and clamp (4) from anti-roll bar, **Fig. II.**

Remove nut (5) of arm shaft and shaft (6), **Fig. III and IV.**

Set the arm upright in order to remove it **Fig. Fig. V.**

FITTING.

Grease shaft (6) along its entire length.

Offer up the arm into the subframe **Fig. V.** Position brake feed hose towards the rear of the arm and insert shaft (6), **Fig. IV.**

When fitting the adjustment shim for the suspension arm articulation bearings, the shim should face the arm outer part.

Install nut (5) (*new NYLSTOP nut*) **Fig. III.**
Tightening torque : 13 m.daN.

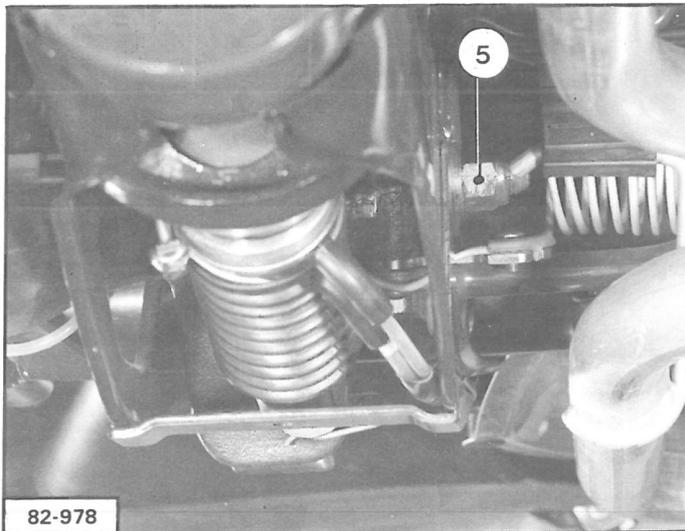
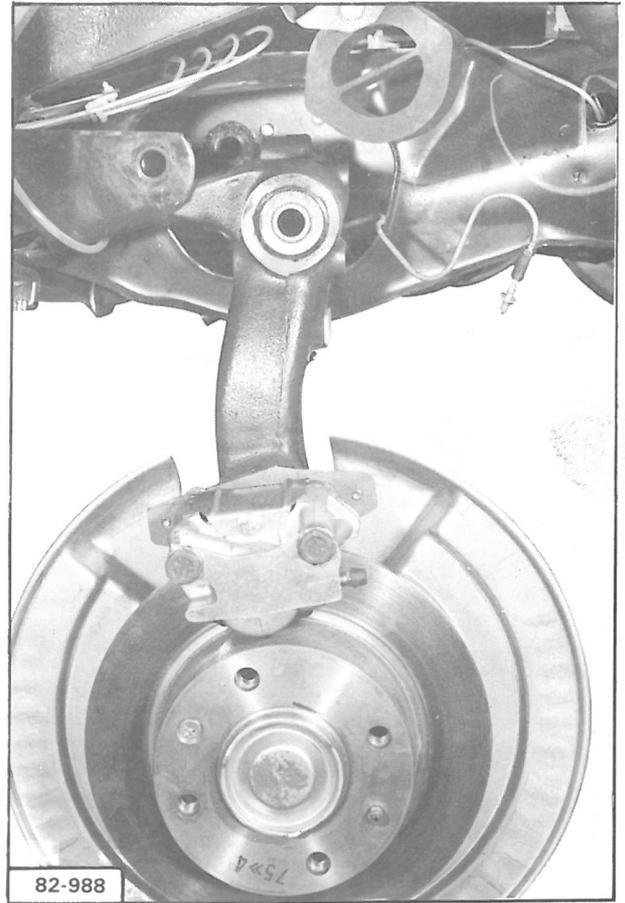
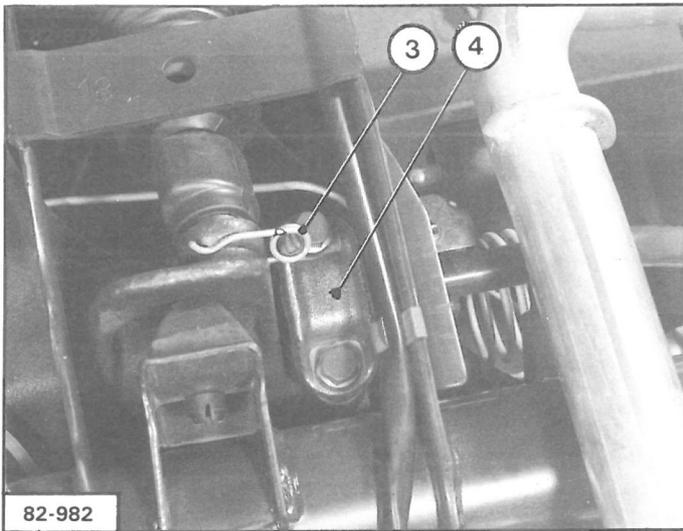
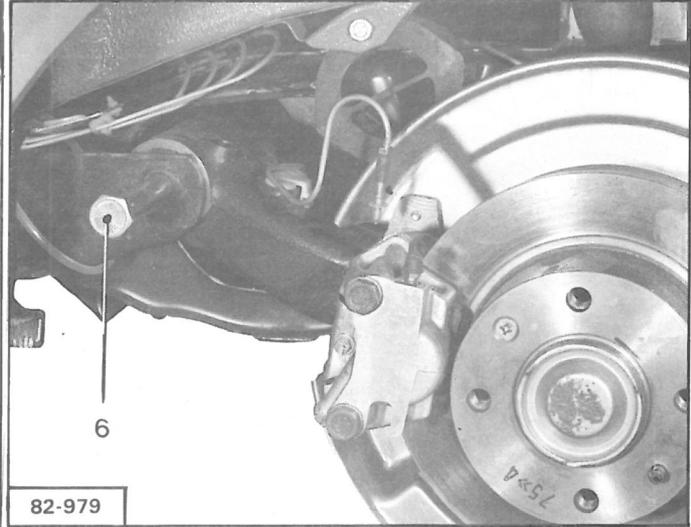
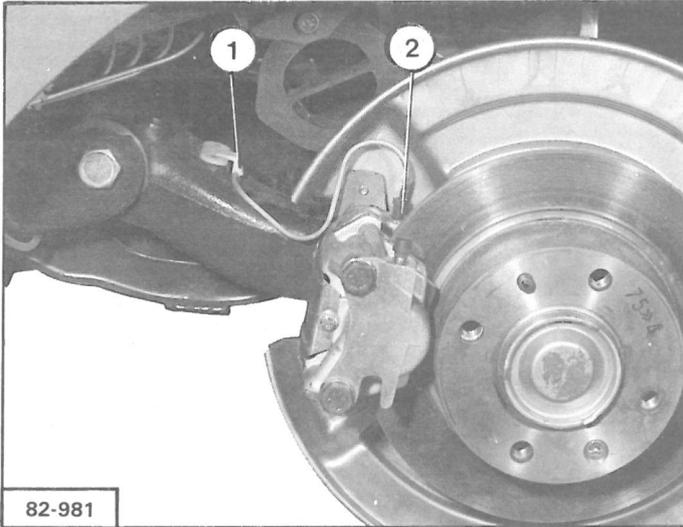
Place anti-roll bar clamp (4), **Fig. II.**
Tightening torque : 6.5 m.daN

Insert pin (3) of the suspension cylinder rod.

Connect brake feed hose to union (2) (*new seal*) and clip (1), **Fig. I.**

Bleed the rear brakes (*See Op. XB. 453-0*).

Fit the wheel.

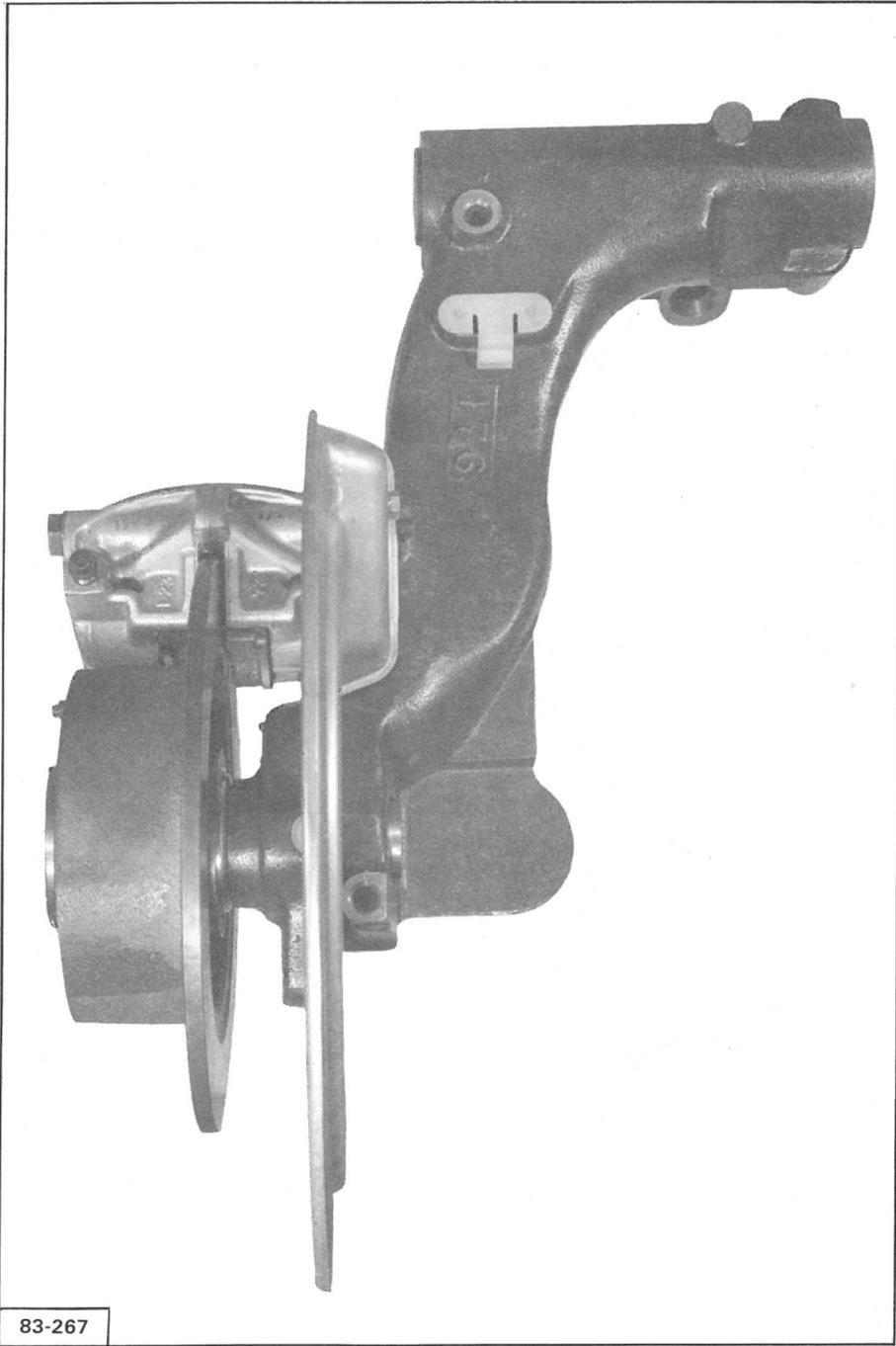


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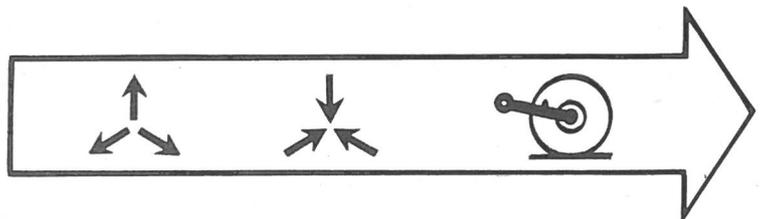
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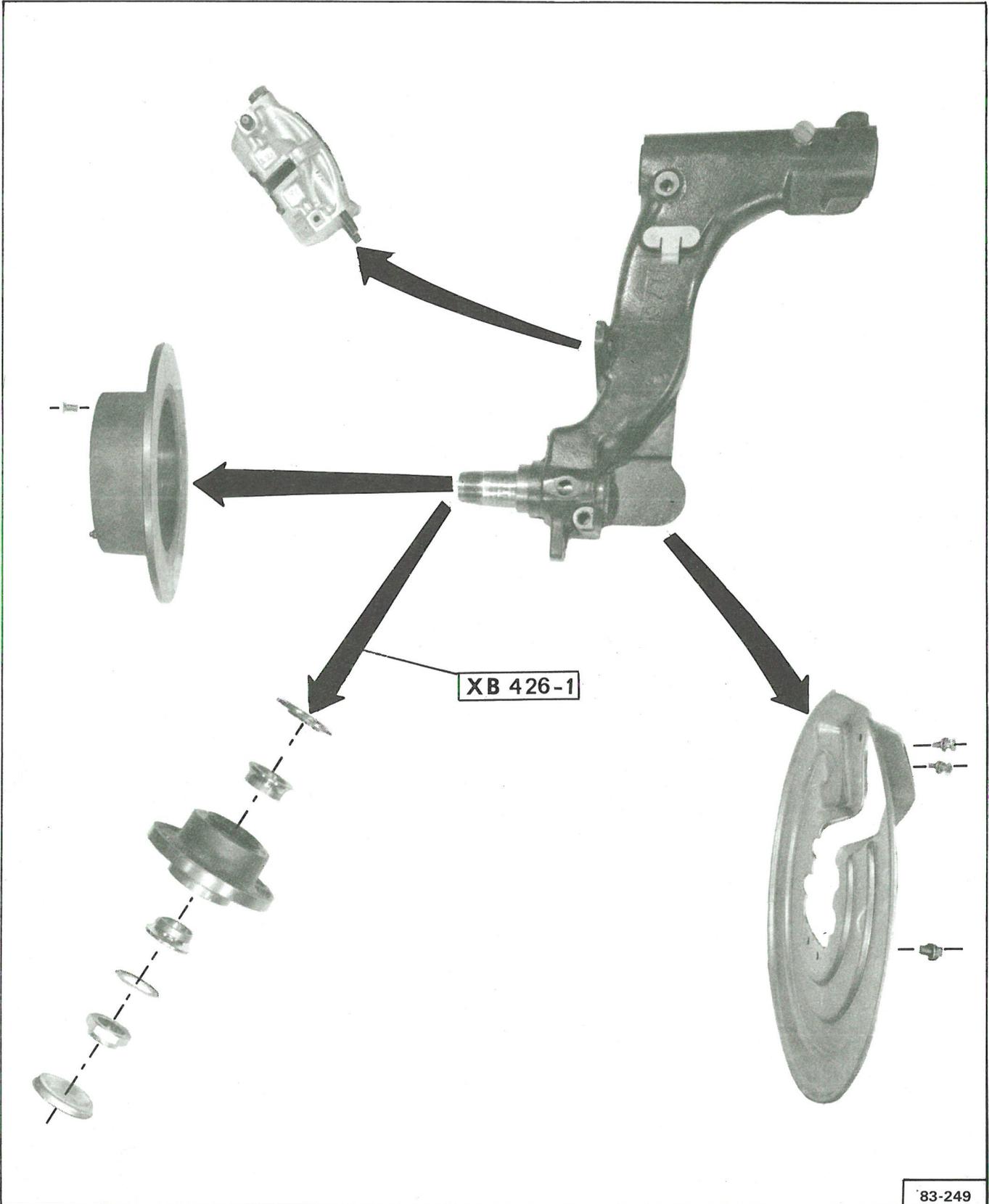
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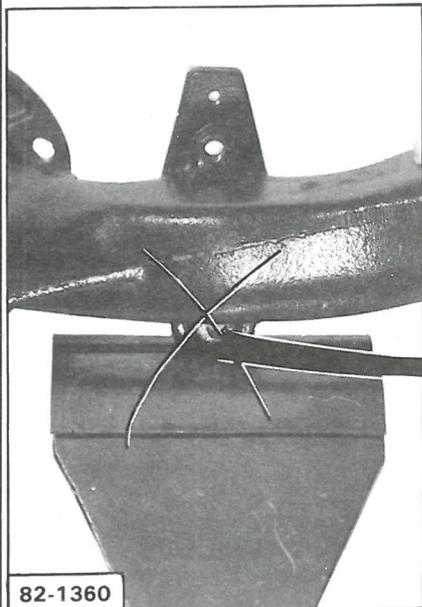
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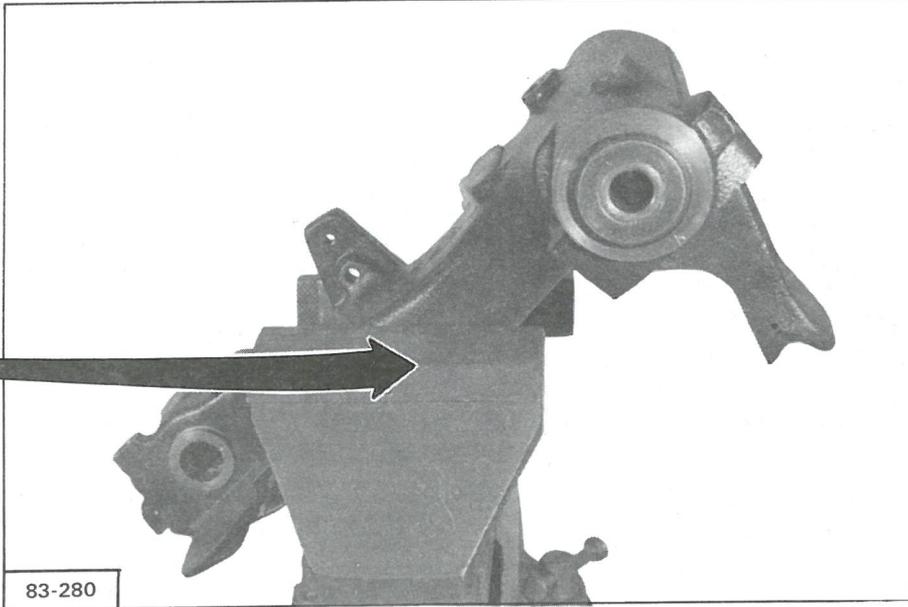
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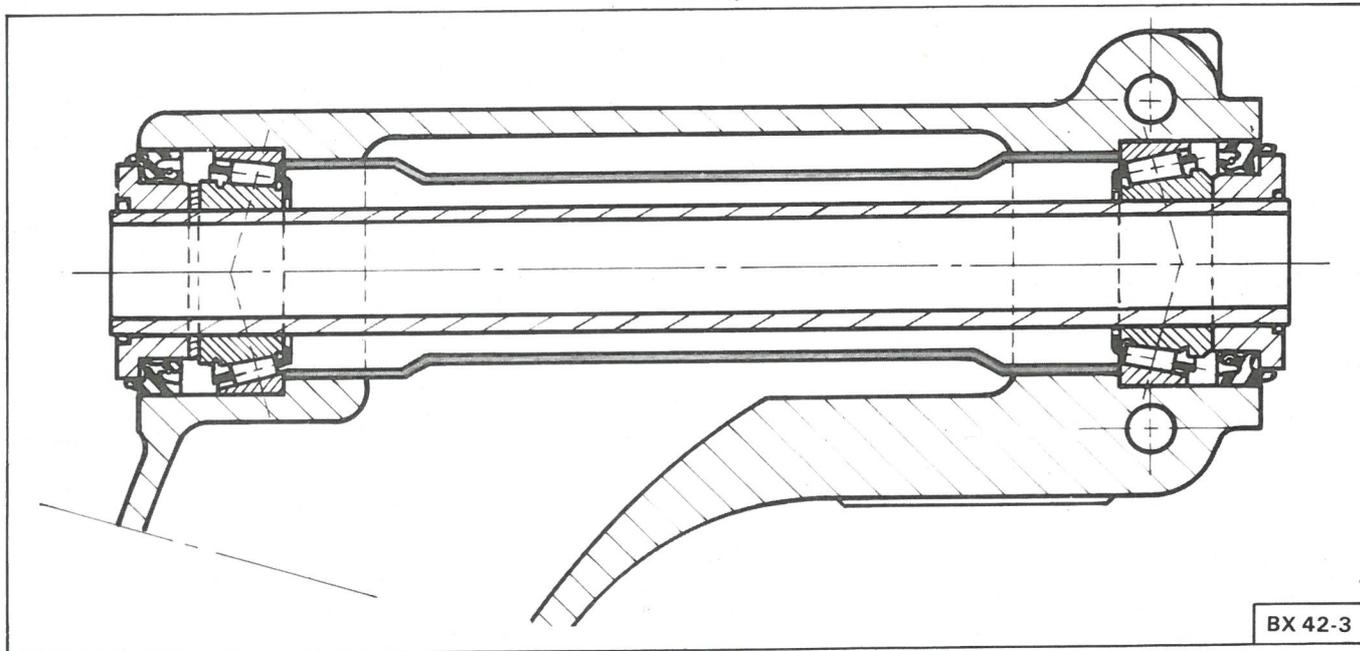




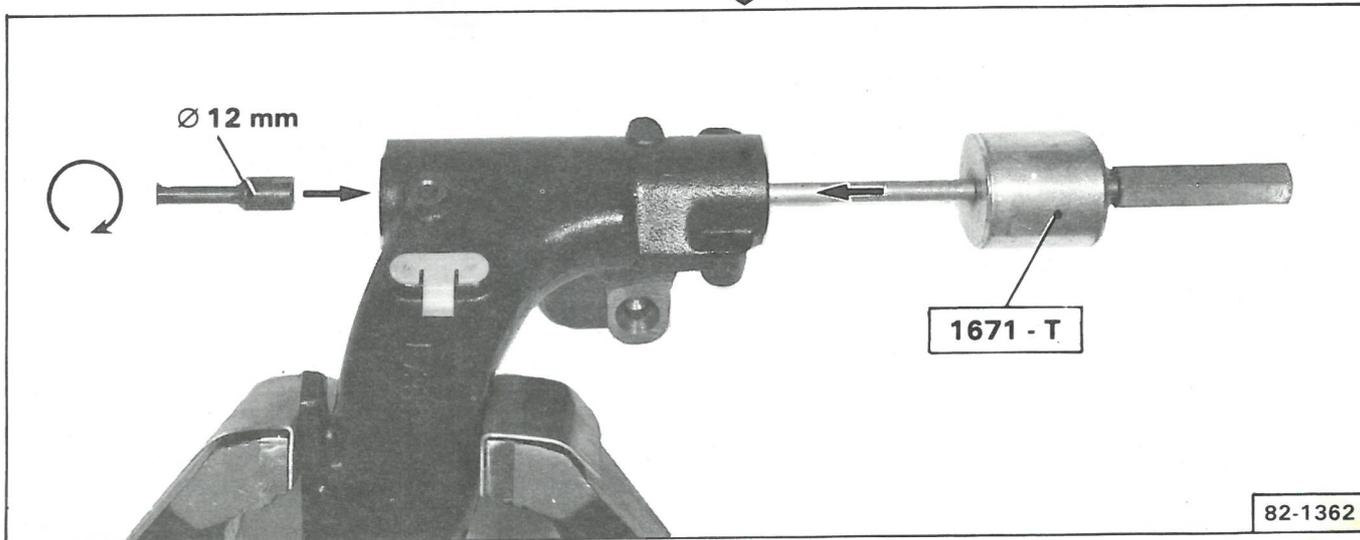
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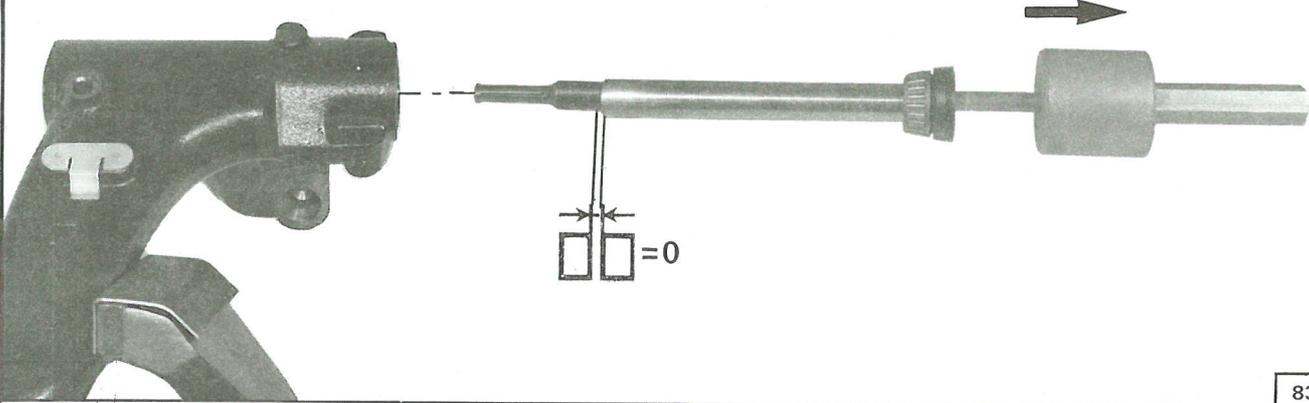
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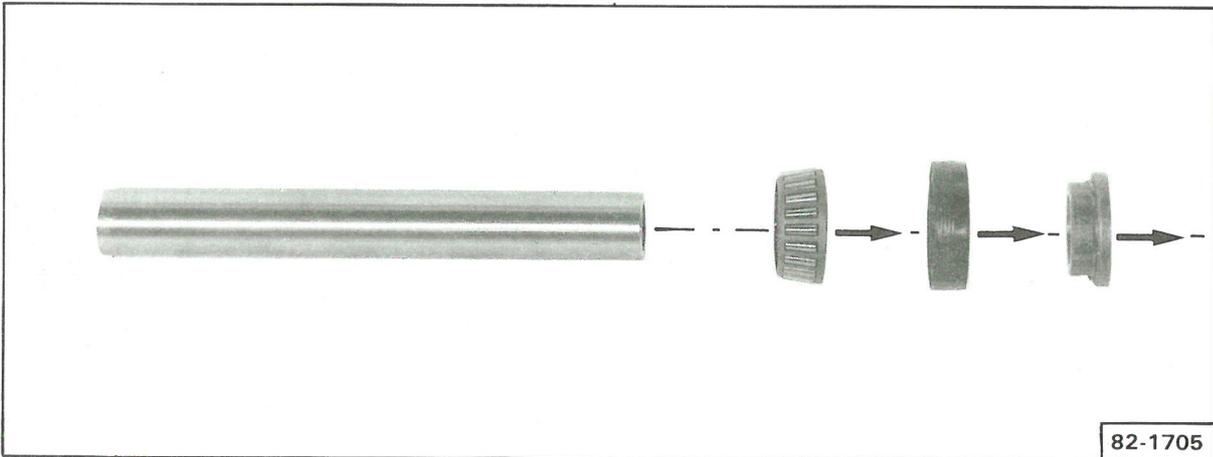
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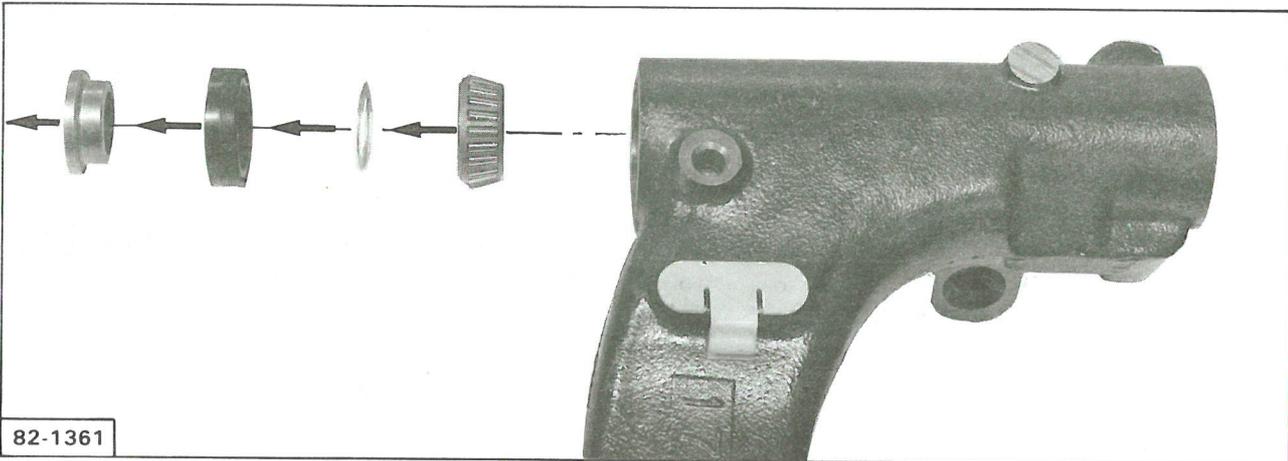
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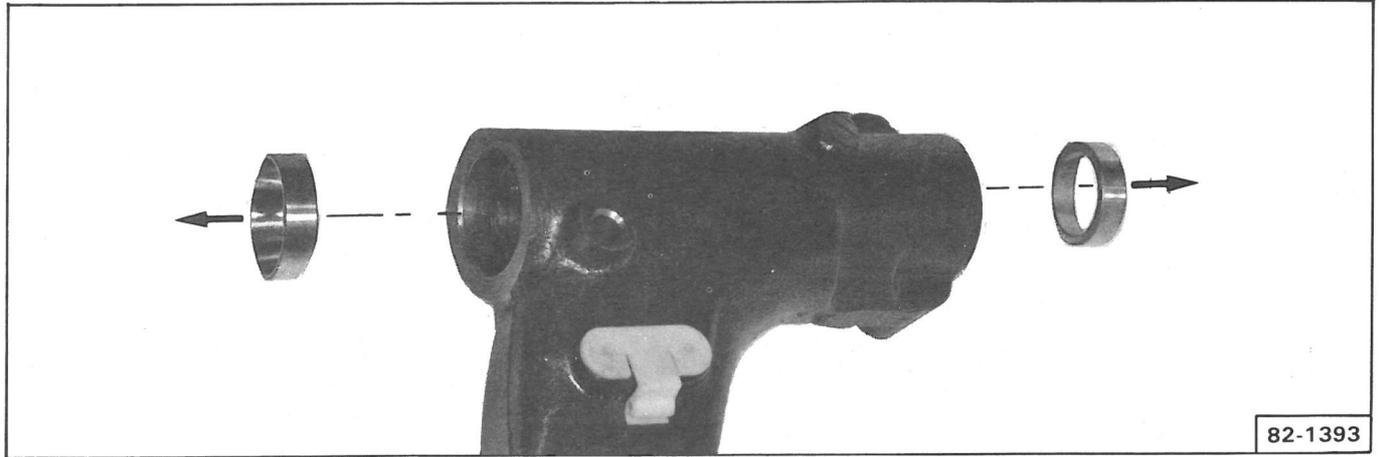
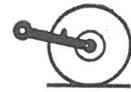
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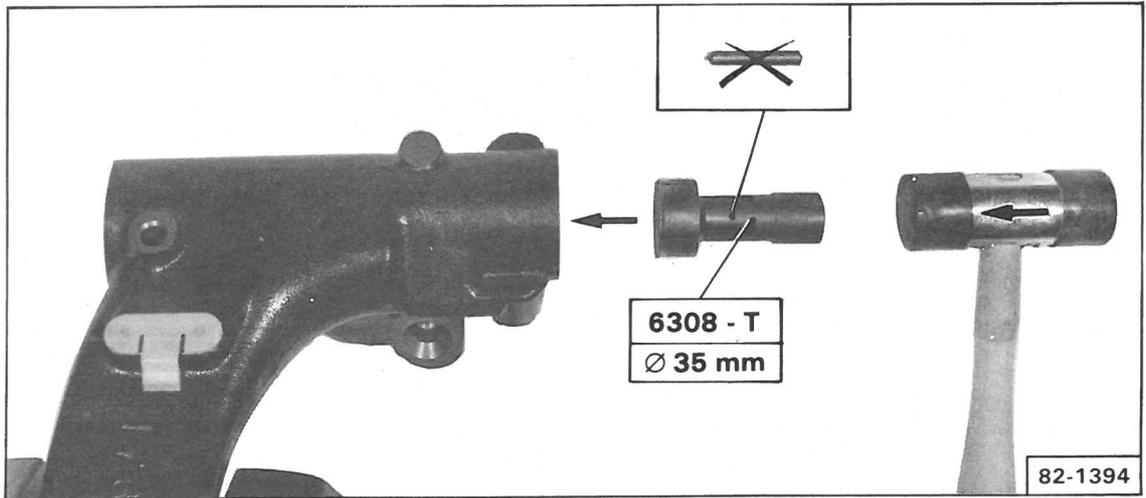
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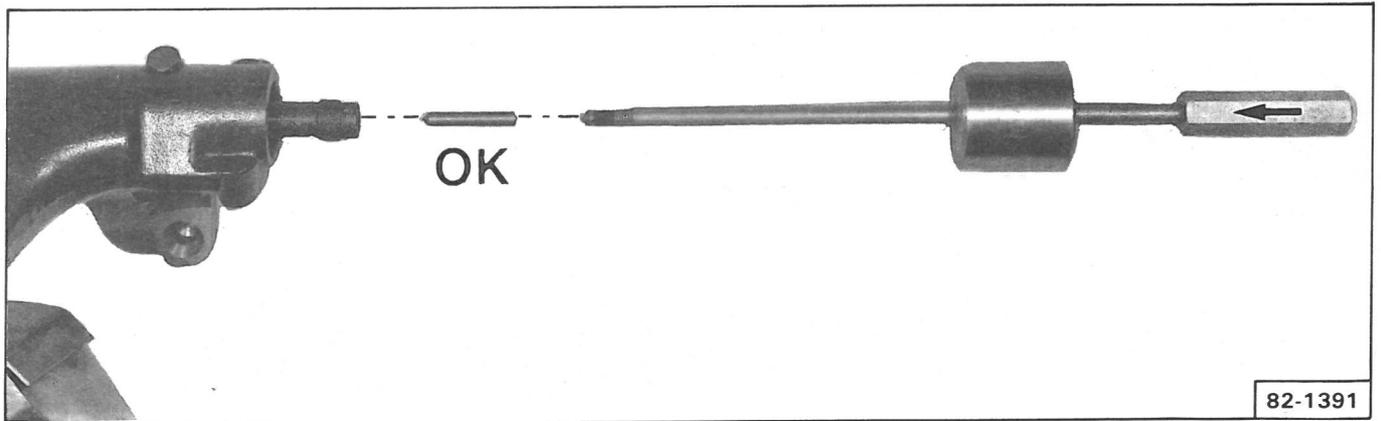
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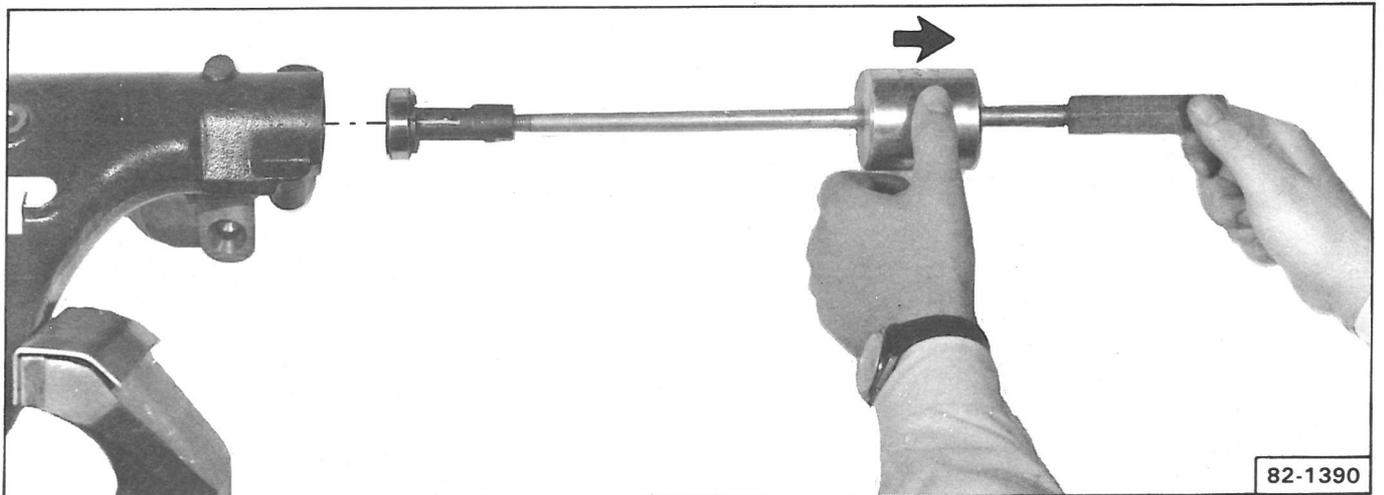
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XB
422-3

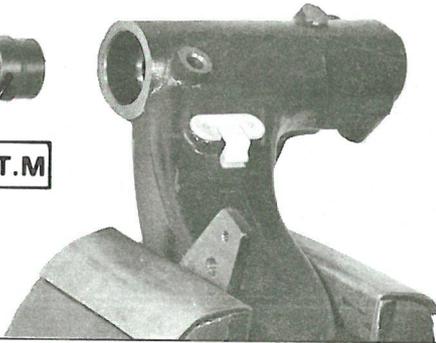


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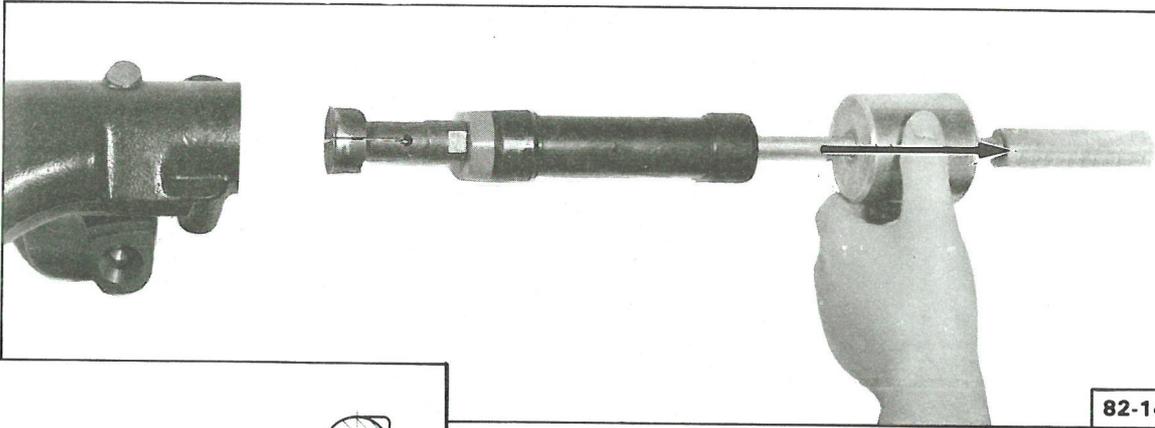
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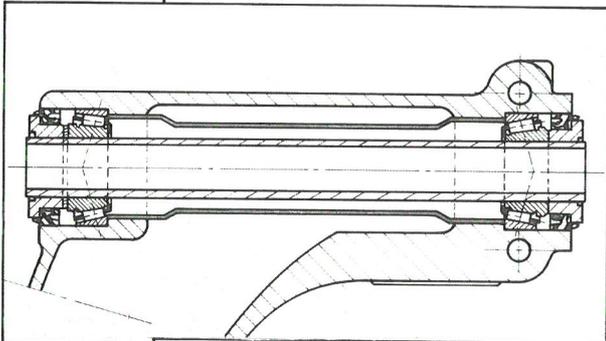
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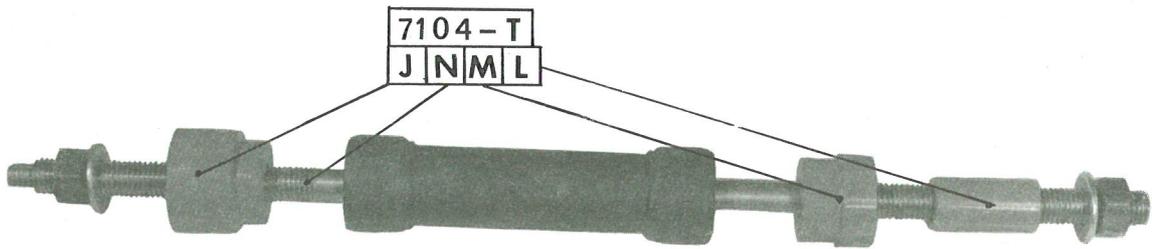
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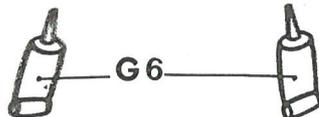


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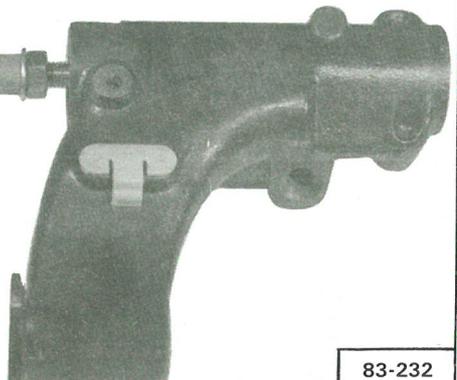


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83-231

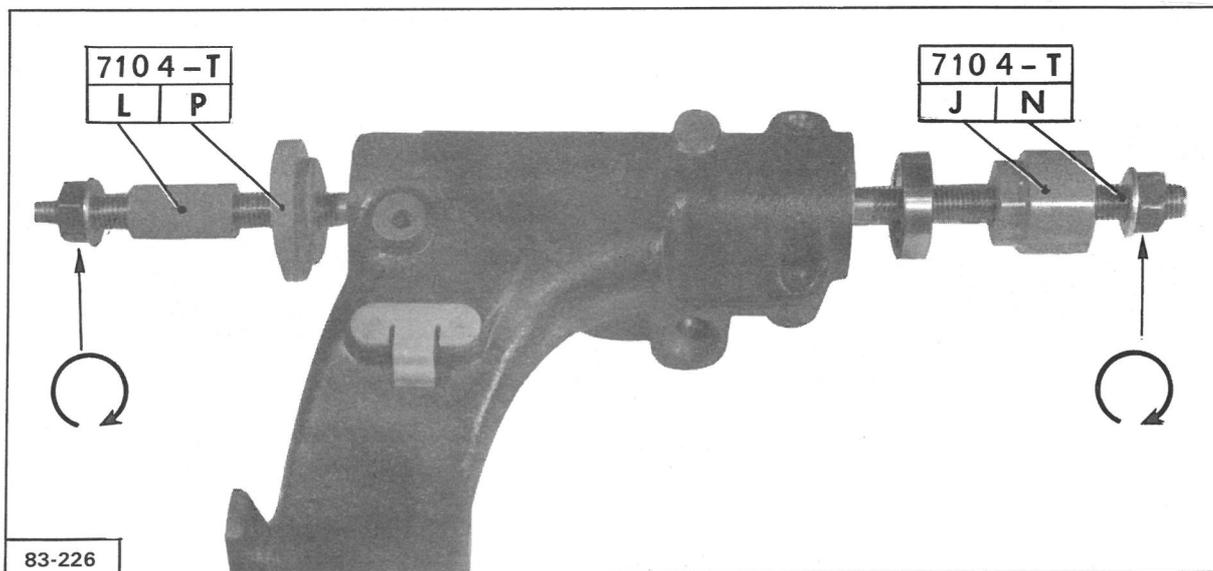
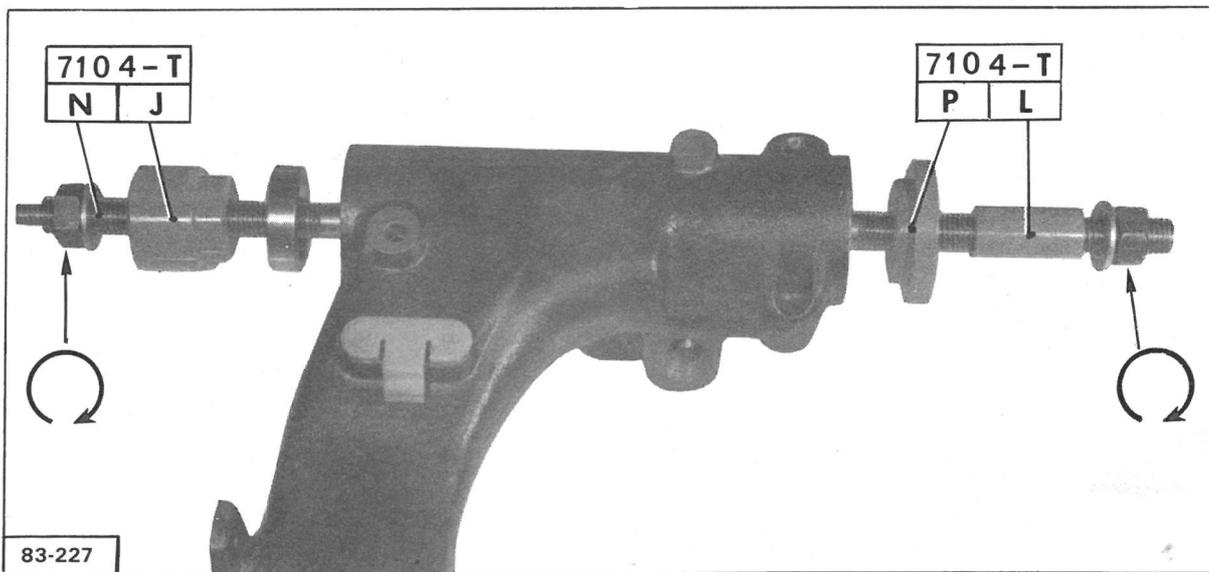
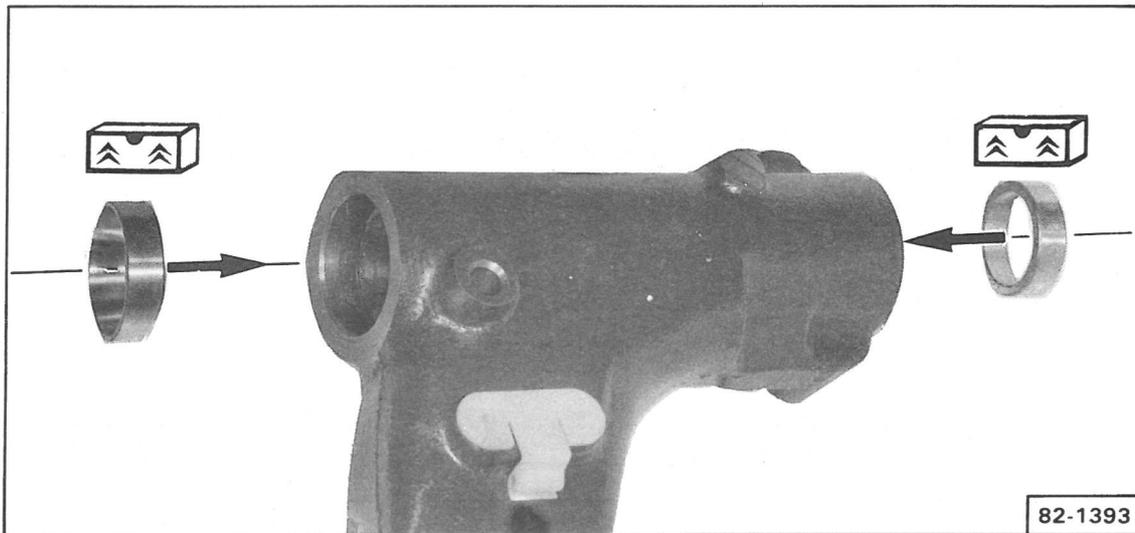


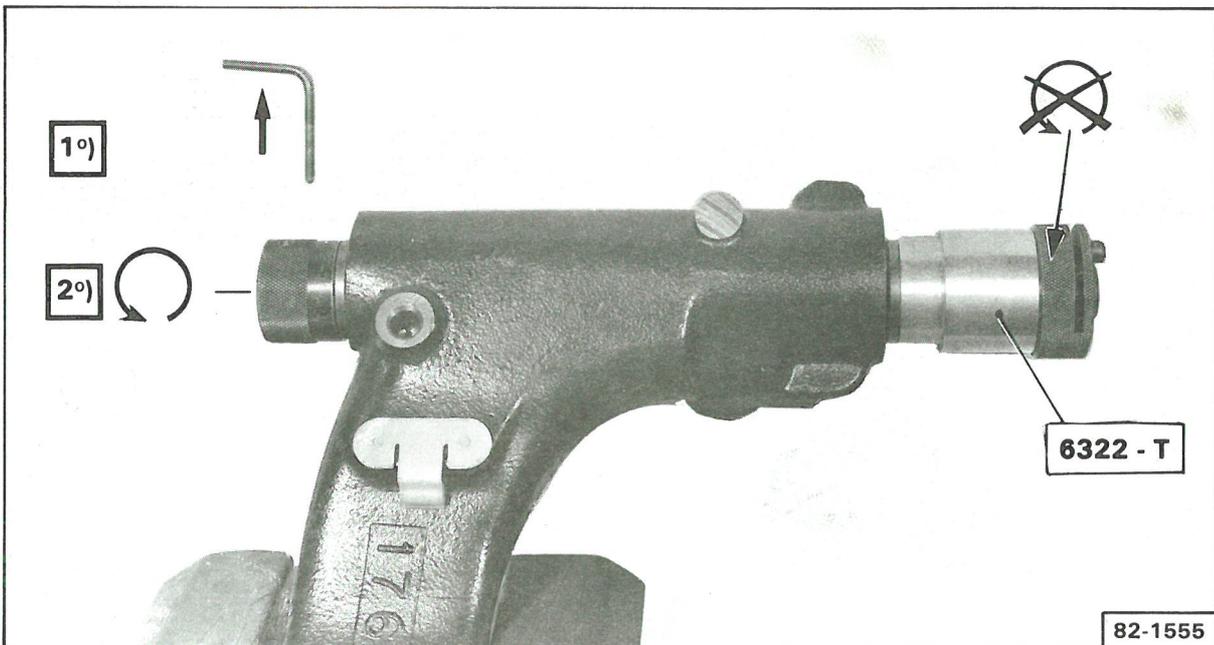
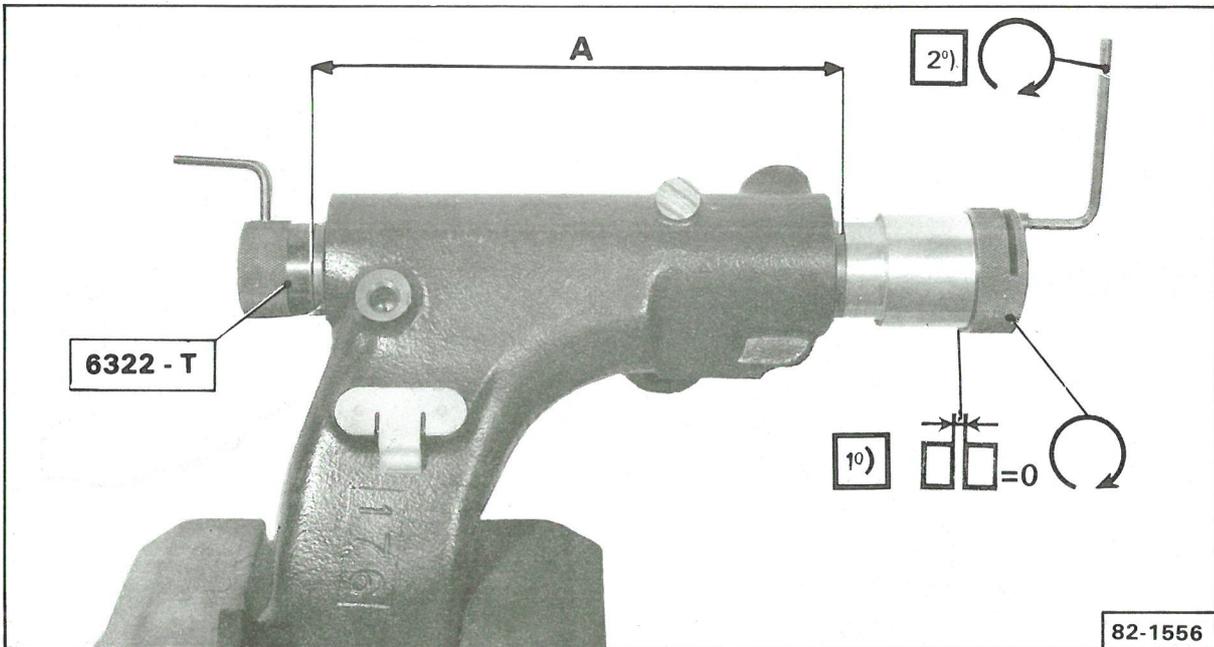
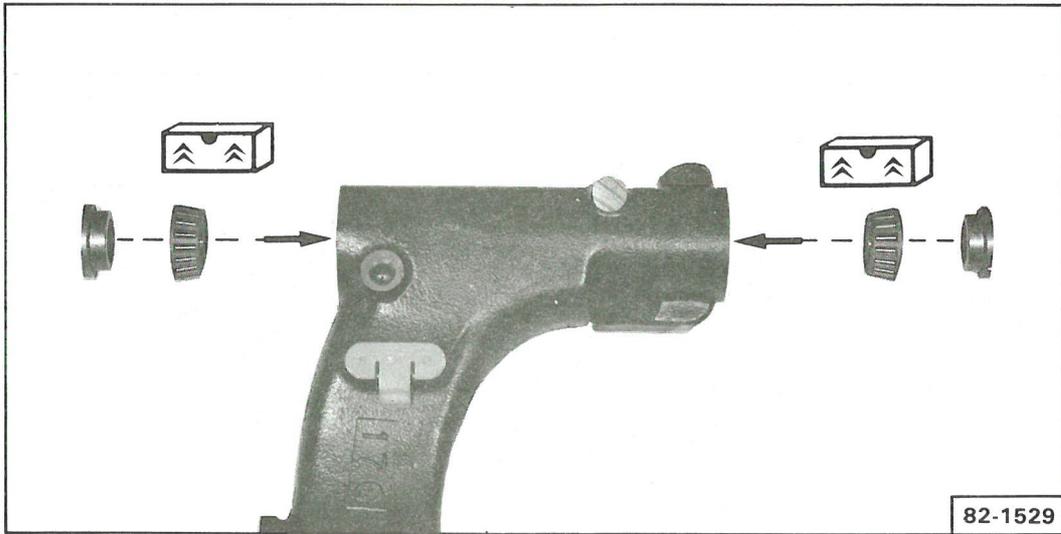
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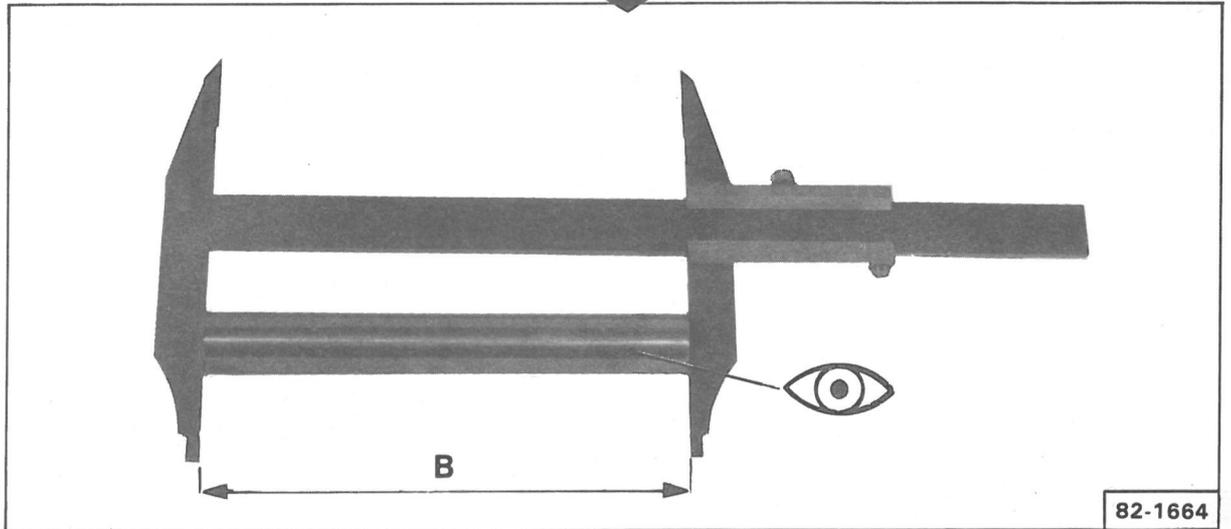
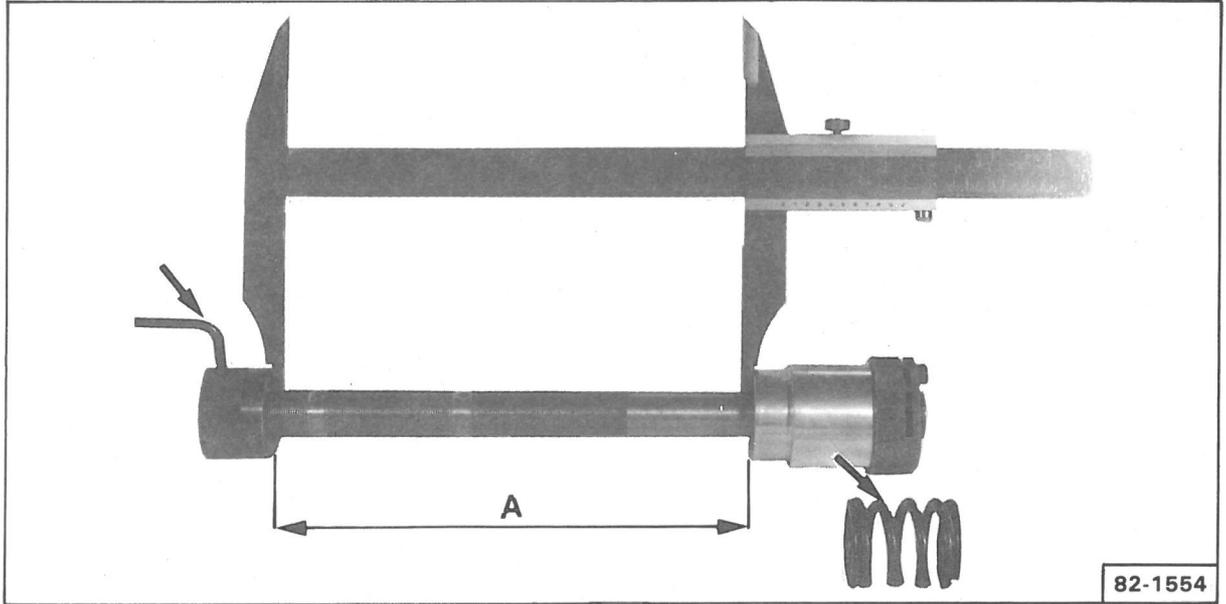


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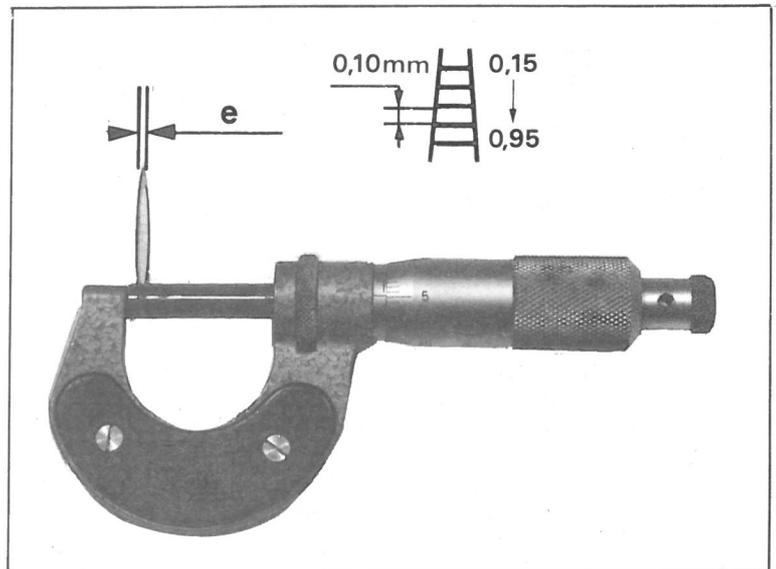


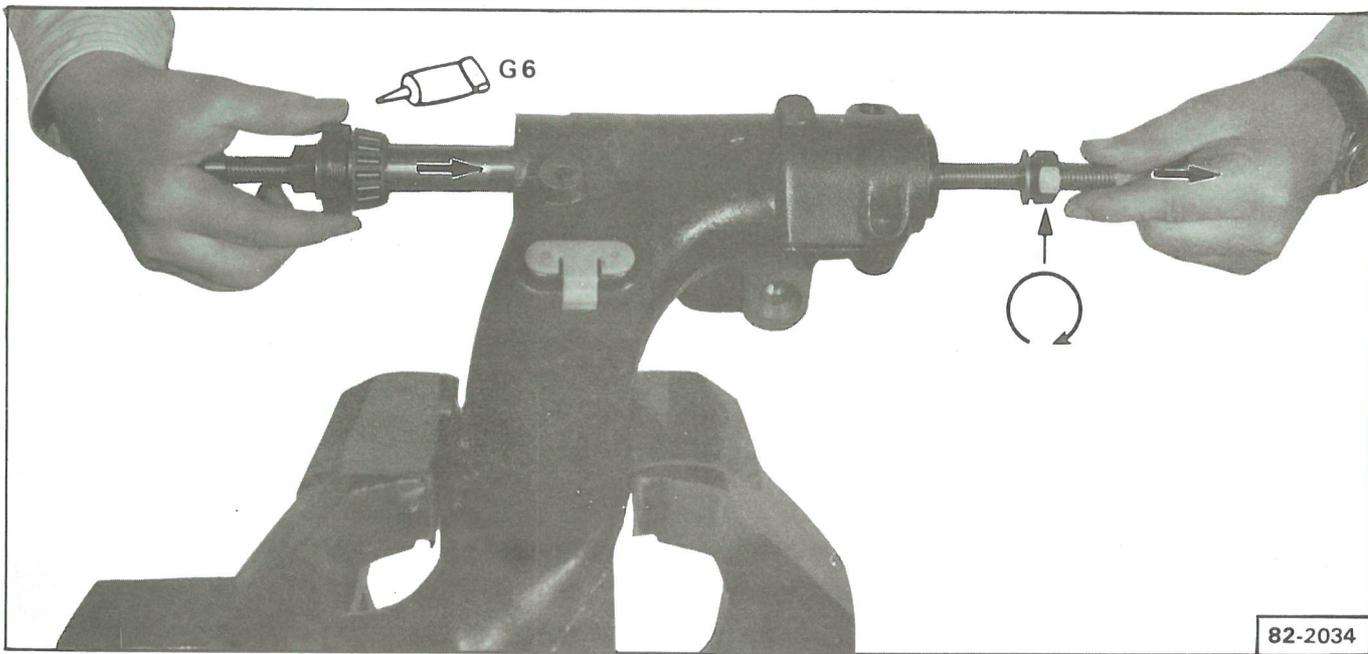
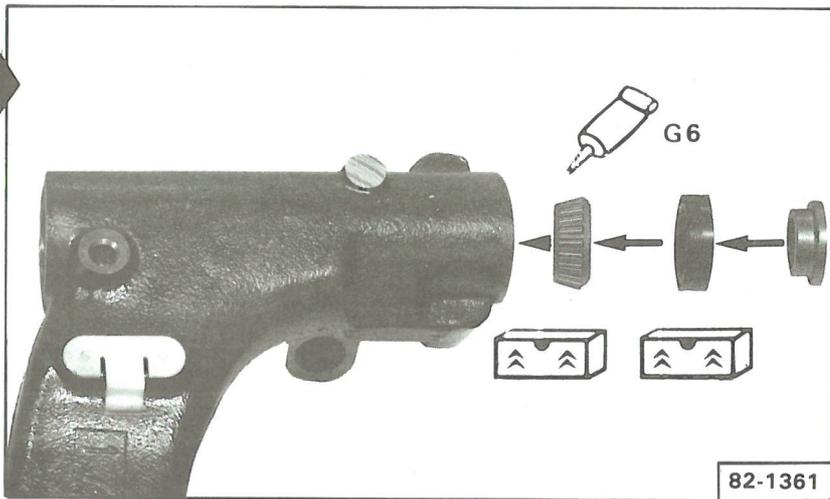
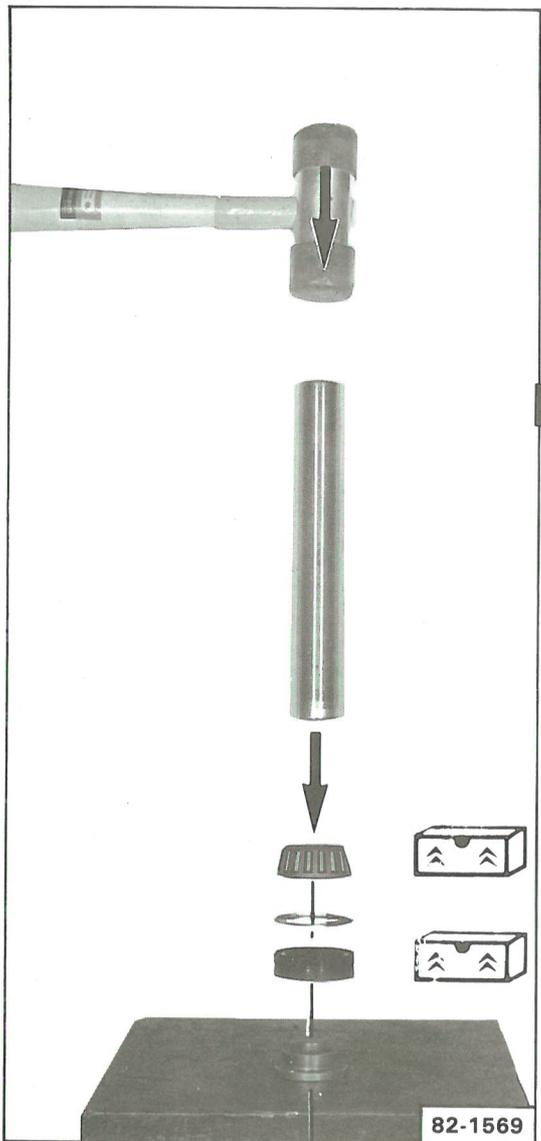
$$X = B - A$$

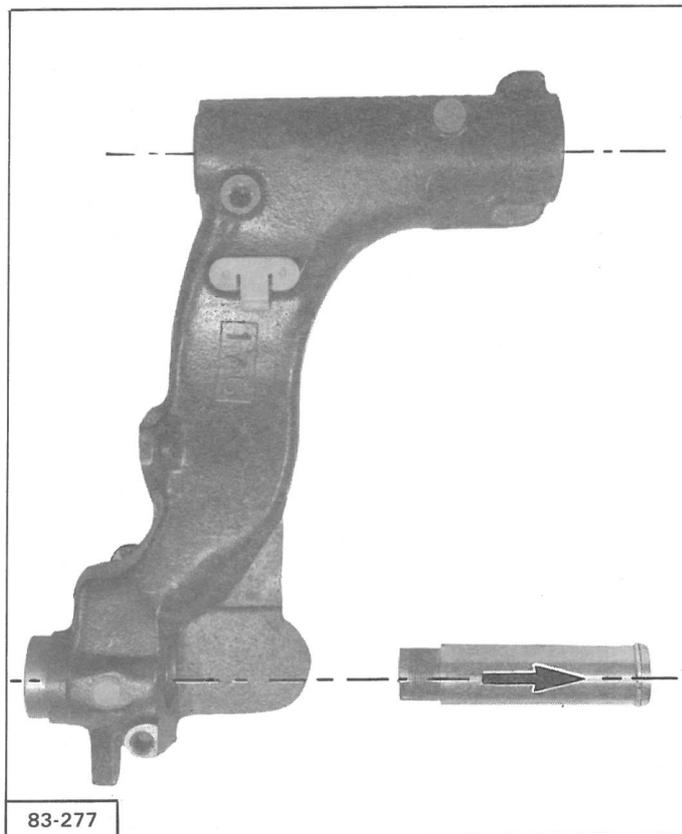
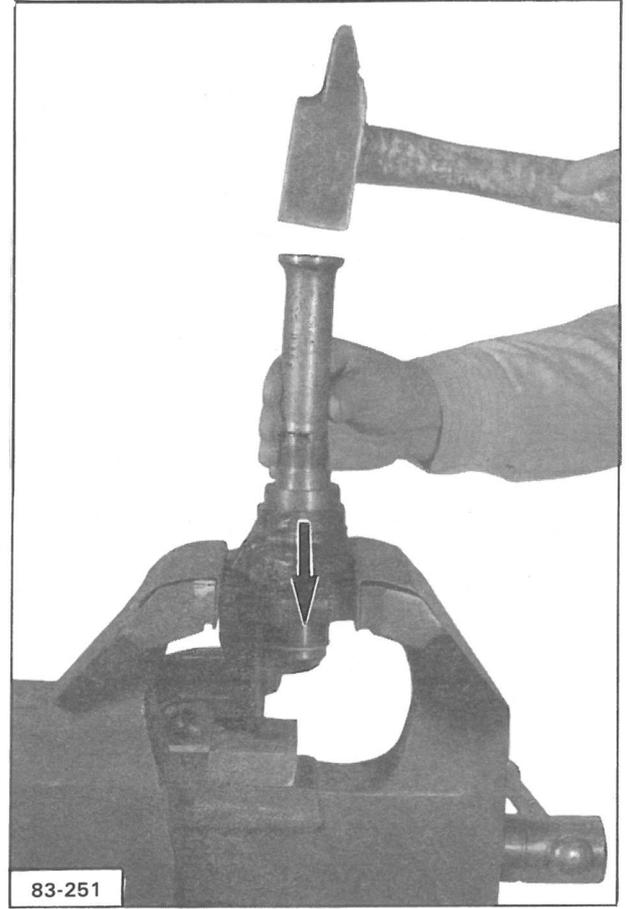
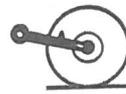
$$e = X - 0,23 \text{ mm}$$

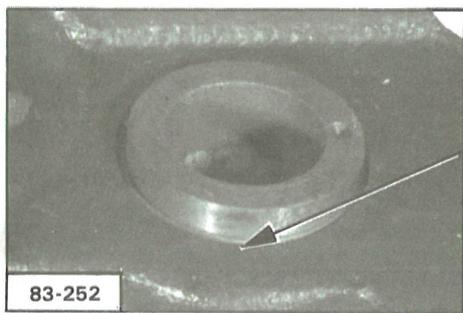
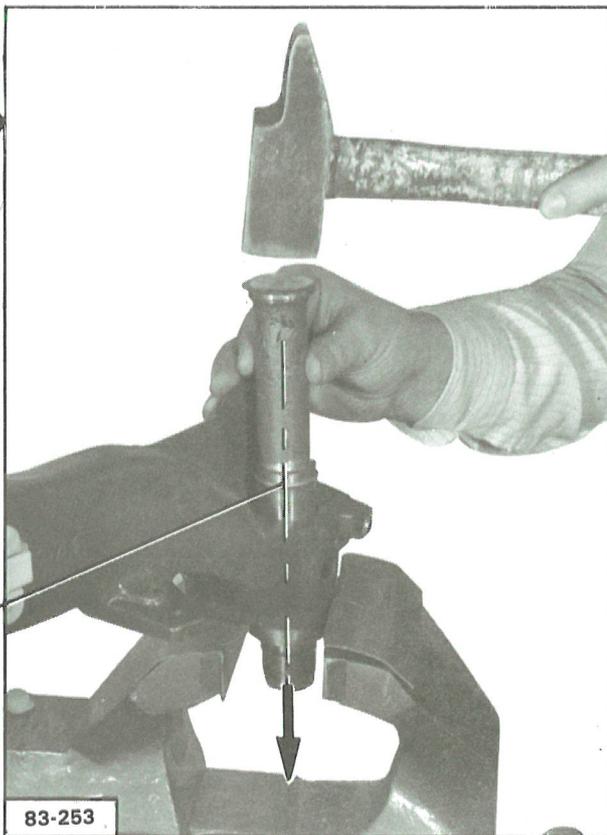


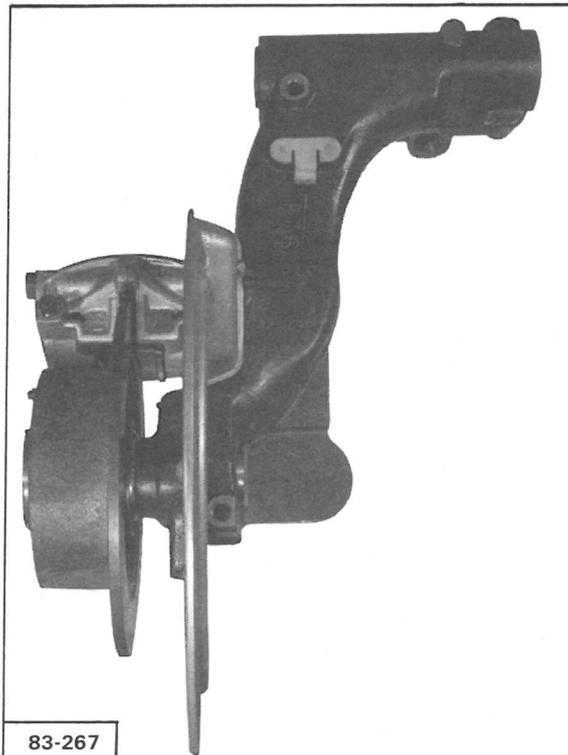
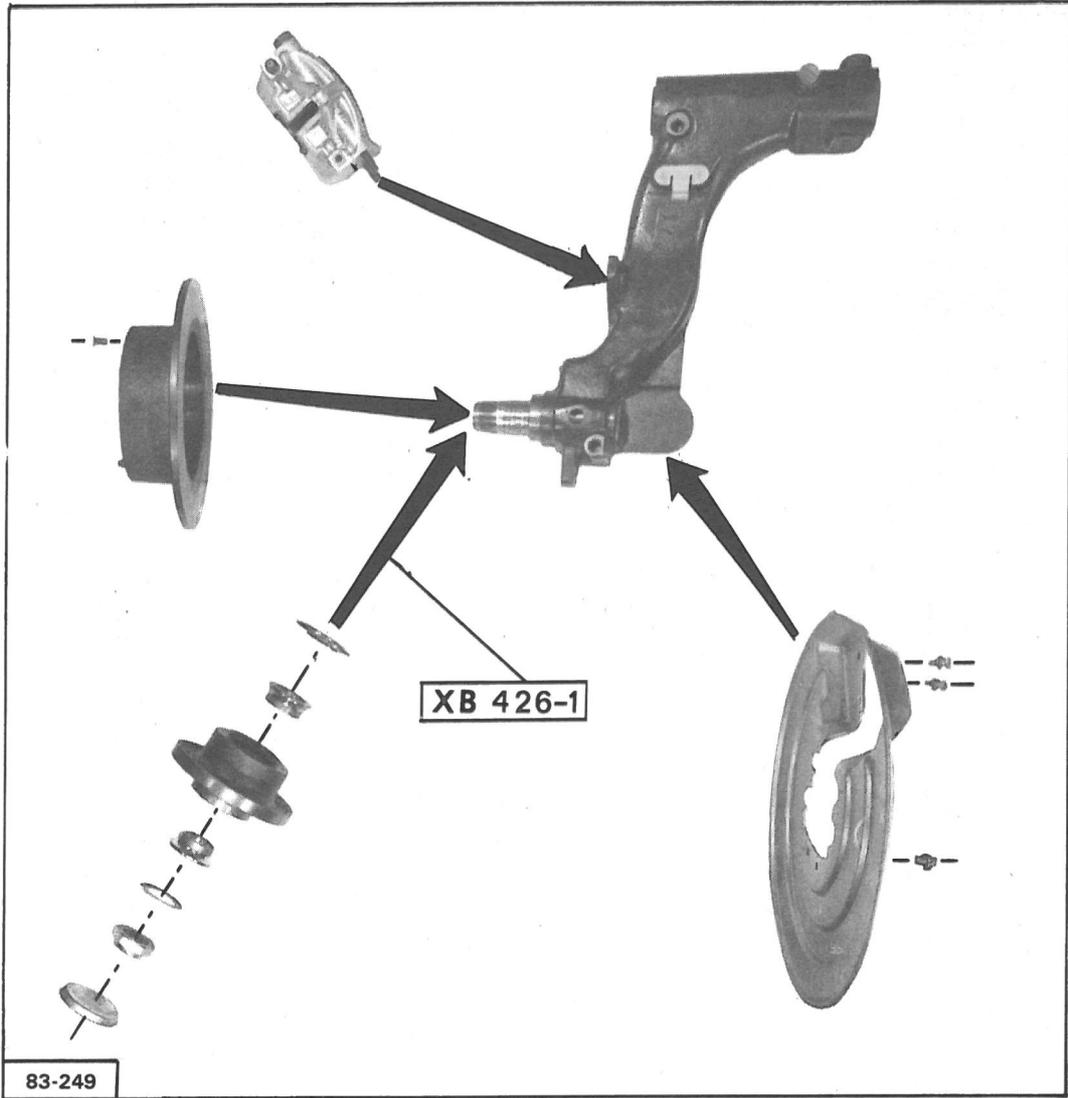
mini 0,17 mm
maxi 0,30 mm











REMOVAL AND FITTING A REAR AXLE,
COMPLETE

REMOVAL

Place the vehicle on a garage lift allowing the bodyshell to be raised without having to hoist up the rear axle.

Lower the pressure in the hydraulic circuit by operating the pressure regulator and place the height control lever in the « down » position.

Slacken the exhaust pipe central collar and remove the expansion chamber unit. **Fig. I.**

Remove the spare wheel.

Remove, Fig. II : height control lever articulating point (5).

Uncouple :

- *from the height corrector :* feed pipes (3), exhaust pipe (2) and overflow return pipe (1),
- *from the 4-way union :* brake control valve feed pipes (6),
- *from the 3-way union :* rear brakes feed pipe (7),
- from bracket (8) : the four pipes.

Remove height control bearing (4).

Set the garage lift to the height required and chock the vehicle under the rear part of the subframe.

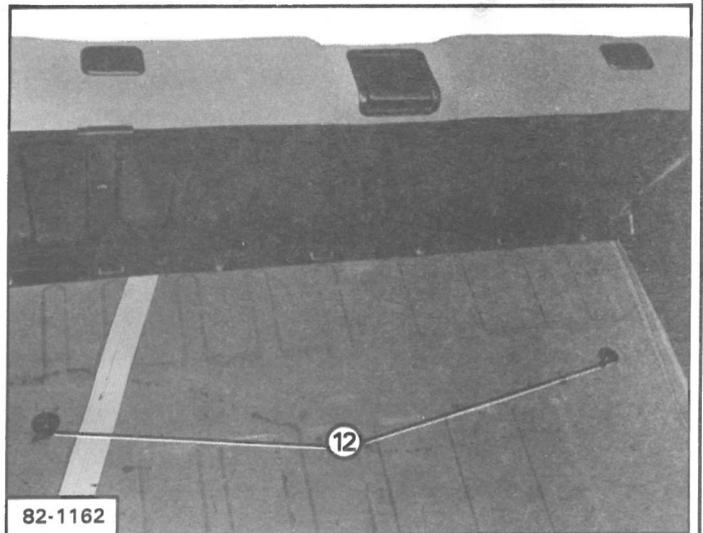
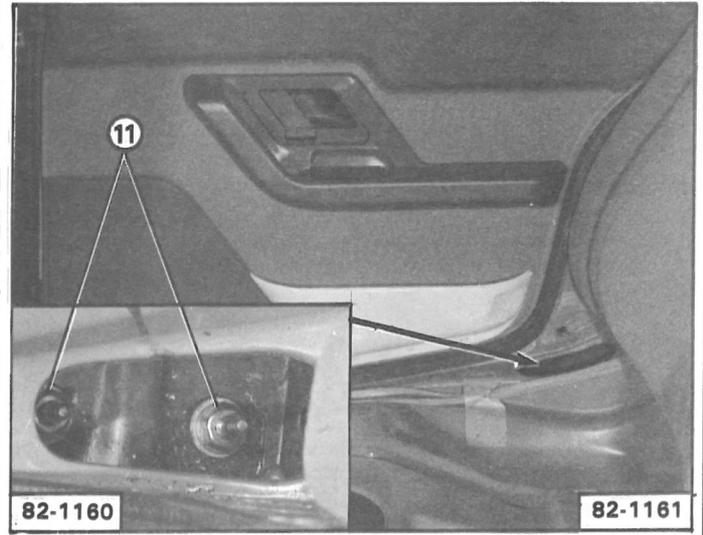
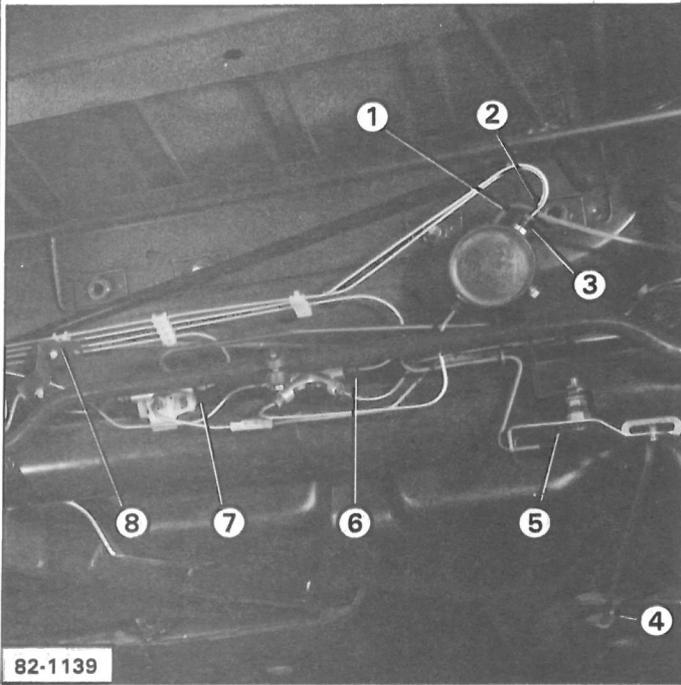
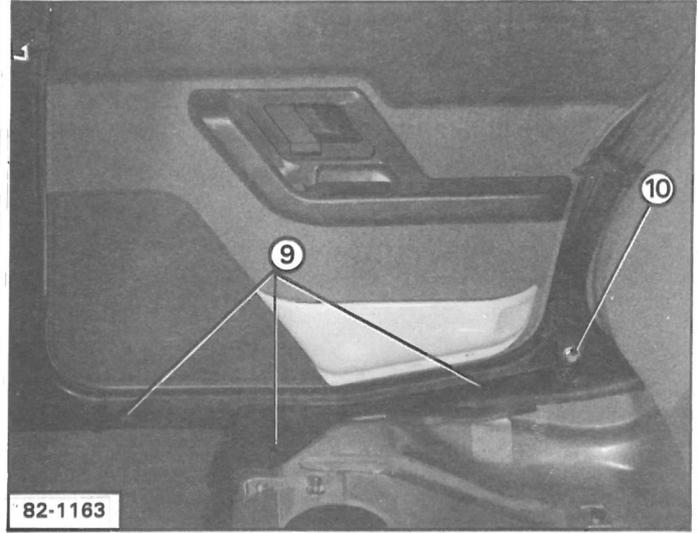
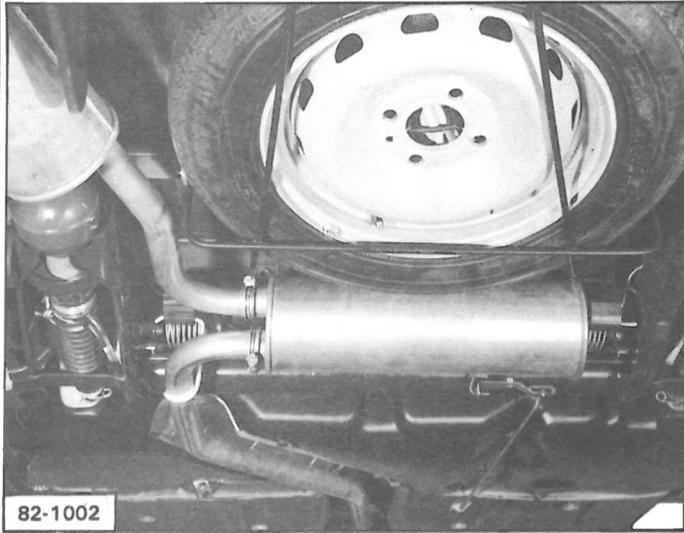
Inside the vehicle, **Fig. III and IV :**

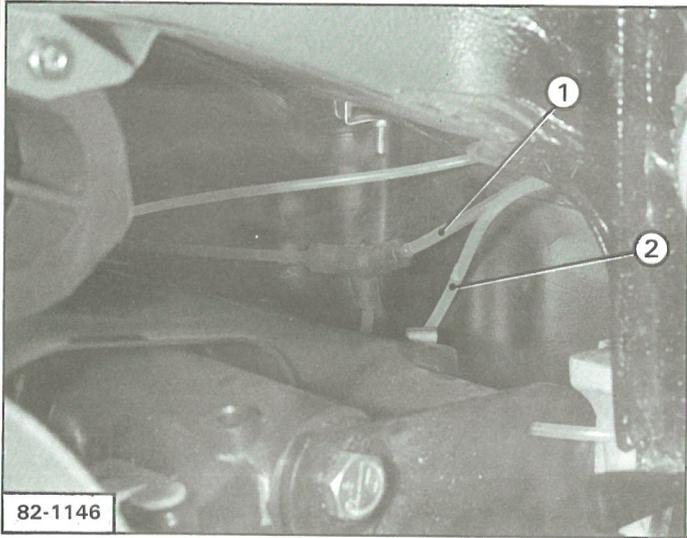
raise the rear bench seat and remove :

- screw (10) securing the rear seat belts,
- the three screws (9) for the side trimming,
- screws (11).

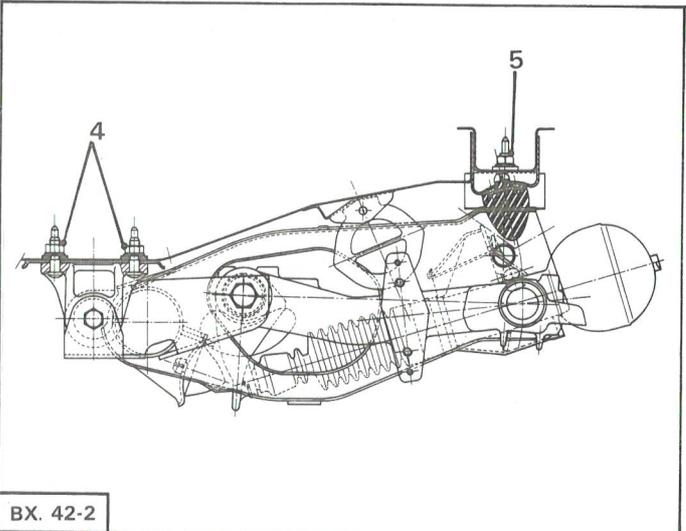
In the boot, **Fig. V :**

raise the carpet and remove screws (12).

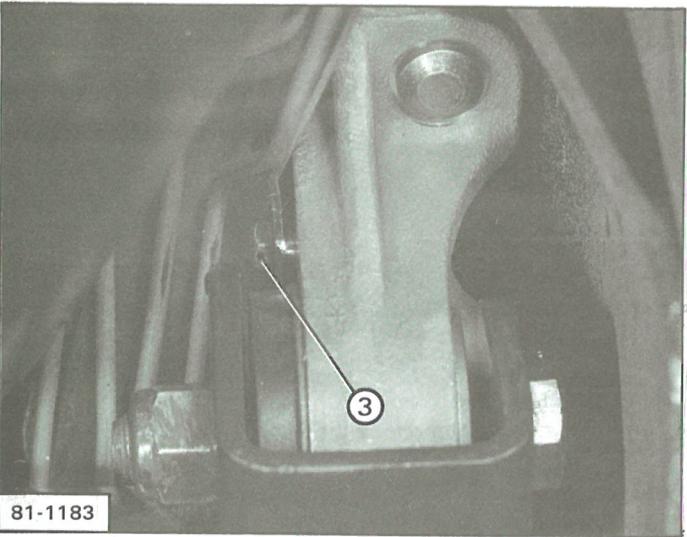




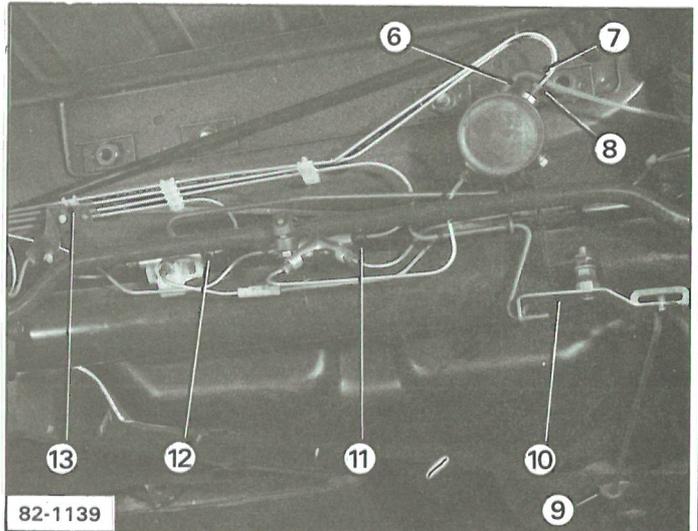
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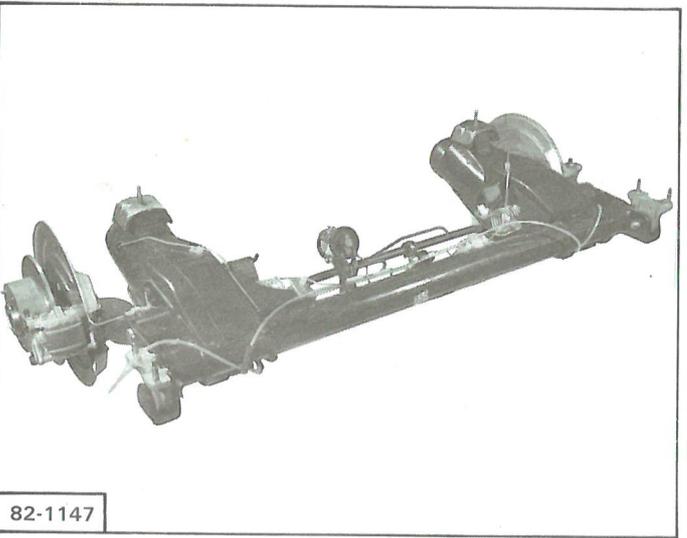
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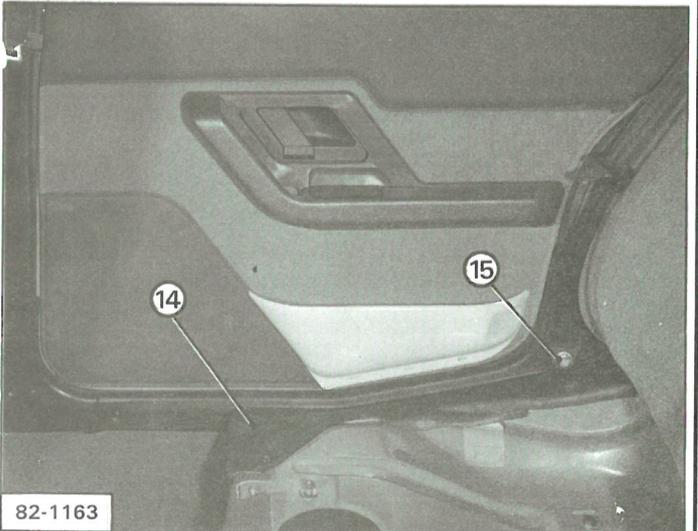
81-1183



82-1139



82-1147



82-1163

I

IV

II

V

III

VI

Hoist up the vehicle by a few centimetres.

On the right hand side, Fig. I :

Disconnect the overflow return pipe (1) from the 3-way union and the overflow return pipe (2) from its clamp.

On the left hand side, Fig. II :

Remove screw (3) securing the bracket of the hydraulic circuit pipes.

Raise the vehicle, disengaging the height control rod.

FITTING.

Place the rear axle unit on stands, under the vehicle.
Lower the vehicle a few centimetres from the axle.
Position the axle until it is level with its mounting points.

On the left hand side :

Fit the bracket of the hydraulic circuit pipes with screw (3) and its nut. **Fig. II.**

On the right hand side :

Connect the overflow return pipe (1) to the 3-way union and engage pipe (2) in its clamp, **Fig. I.**

Insert the height control rod under the axle.

Bring the vehicle into contact with the axle.

Fit the plain washers and nuts, **Fig. IV**

Tightening torque for nuts (4) : 5 m.daN

Tightening torque for nuts (5) : 2.8 m.daN

Couple up the hydraulic circuit pipes (new seals), **Fig. V.**

- rear brakes feed pipe (12) to the 3-way union,
- brake control valve feed pipe (11) to the 4-way union,
- feed pipes (8), exhaust pipe (7) and overflow return pipe (6) to the height corrector.

Place the hydraulic circuit pipes in bracket (13).

Fit height control lever articulating point (10) and fasten plastic bearing (9).

Fit exhaust, spare wheel and rear wheels.

Put into place trimming (14) and rear seat belts securing screws (15).

Bleed rear brakes (*see Op. XB. 453-0*).



REMOVING AND FITTING A REAR HUB

REMOVAL

Chock the vehicle

Remove:

- the wheel,
- the brake pads.

Fit screw (1), Fig. I.

Remove, Fig. I :

- the screws securing brake unit (2),
- the screw from disc (4),
- the brake disc,
- the hub cap (3).

Unlock the hub nut.

Prevent the stub axle from rotating, **Fig. III**, using a **19 mm**. Allen key or a 6 face tubular spanner, **14 mm A/F**.

Remove, Fig. III and IV :

- the hub nut and its washer (40 mm A/F),
- the hub (use puller **2405-T**),
- the bearing inner race (use puller **2405-T**),
- the thrust cup of the hub seal.

Clean the parts.

FITTING.

Fit thrust cup (5) of the hub seal, **Fig. V** (use tool **7104-T.S**).

Prevent the stub axle from rotating.

Fit the hub inner race.

Drive in the race using the hub nut and a bush. *Clean and lubricate (grease **G 6**).*

Fit the hub.

- Engage the hub by slightly striking the inner race to release the threads of the stub axle, **Fig. VI**.
- Proceed with engaging the hub by means of the hub nut.
- Take off the nut, clean and lubricate it (*grease **G6***).

Fit the hub washer and the nut (*new*), **Fig. VII**.

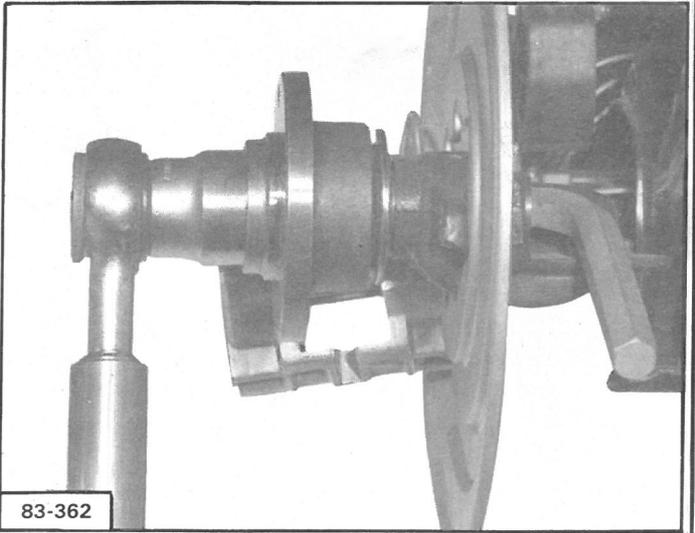
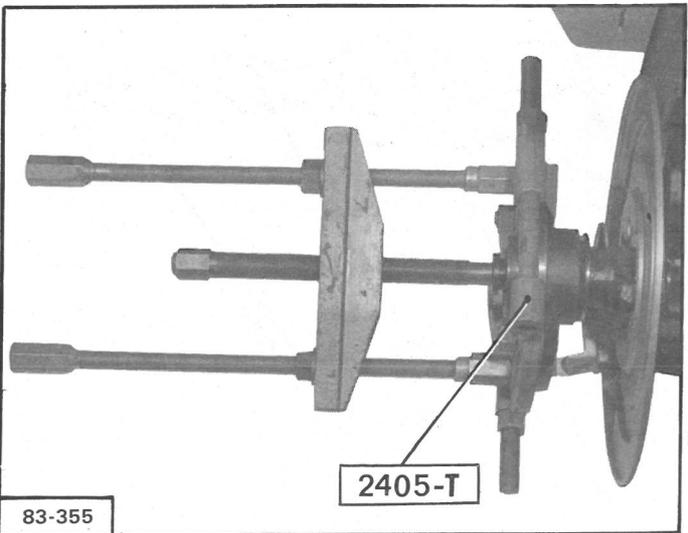
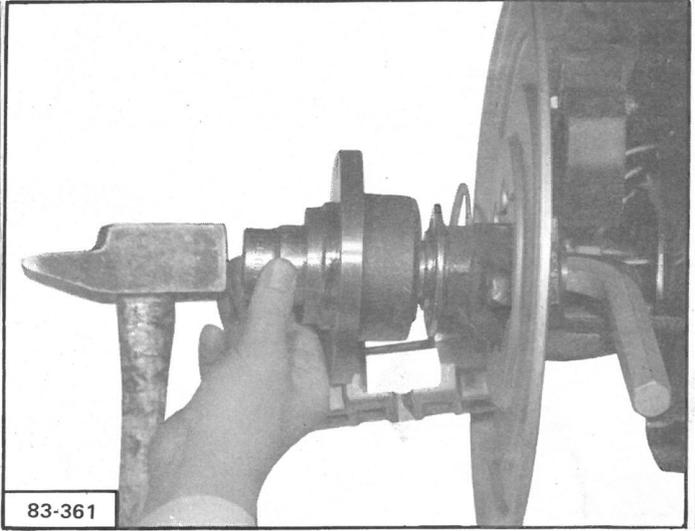
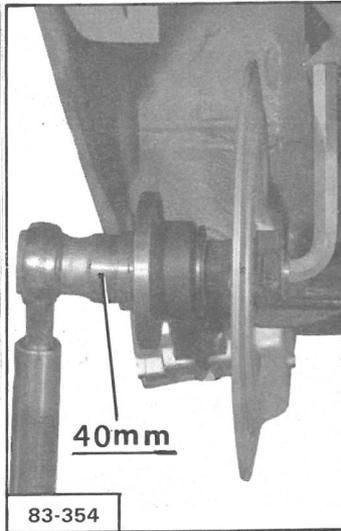
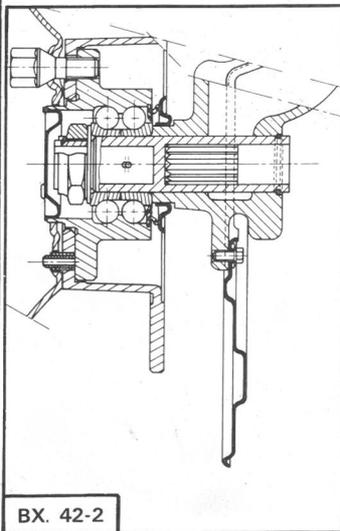
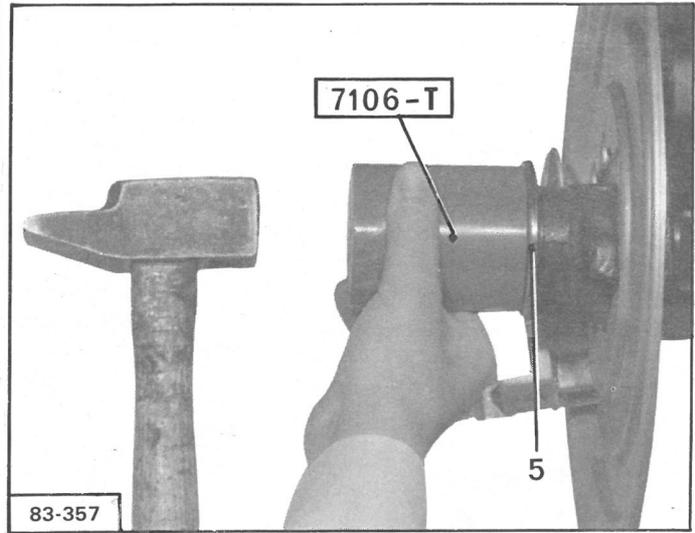
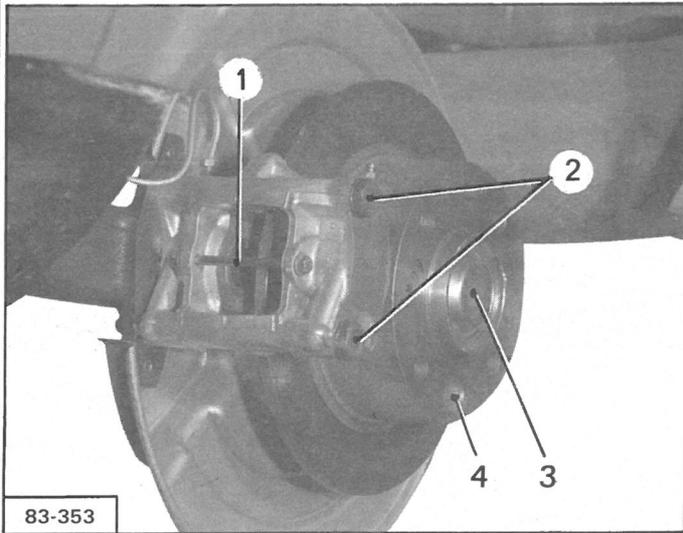
Tightening torque : **27.5 m.daN**.

Lock the nut.

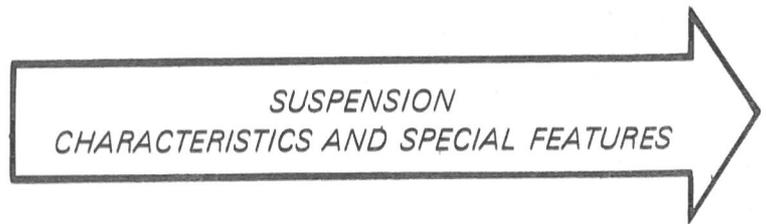
Fit, Fig. I :

- hub cap (3),
- the brake disc,
- disc (4) screw,
- unit (2) screws,
- the brake pads after having removed screw (1),
- the wheel.

Set the vehicle on the wheels.



Operation number	DESCRIPTION
XB. 430-00	Suspension characteristics and special features
XB. 433-1	Working on hydraulic suspension components
XB. 433-3	Reconditioning the front and rear suspension cylinders     
XB. 434-4	Working on mechanical suspension components
XB. 471-0	Characteristics of wheels and tyres



CHARACTERISTICS

Low rate, self-levelling hydropneumatic suspension (*independent system on all four wheels*).

Front suspension unit : (simple and compact design)

List of items :

- ① Sphere
- ② Sphere support
- ③ Cylinder
- ④ « Silent-bloc » bush ensuring cylinder/bodyshell connection
- ⑤ Guide filter
- ⑥ Cylinder body
- ⑦ Piston
- ⑧ Dust cover
- ⑨ Bump stop
- ⑩ One-way valve on overflow return
- ⑪ Rebound stop

DESCRIPTION.

The pressure rises up simultaneously inside sphere (1) and cylinder (3).

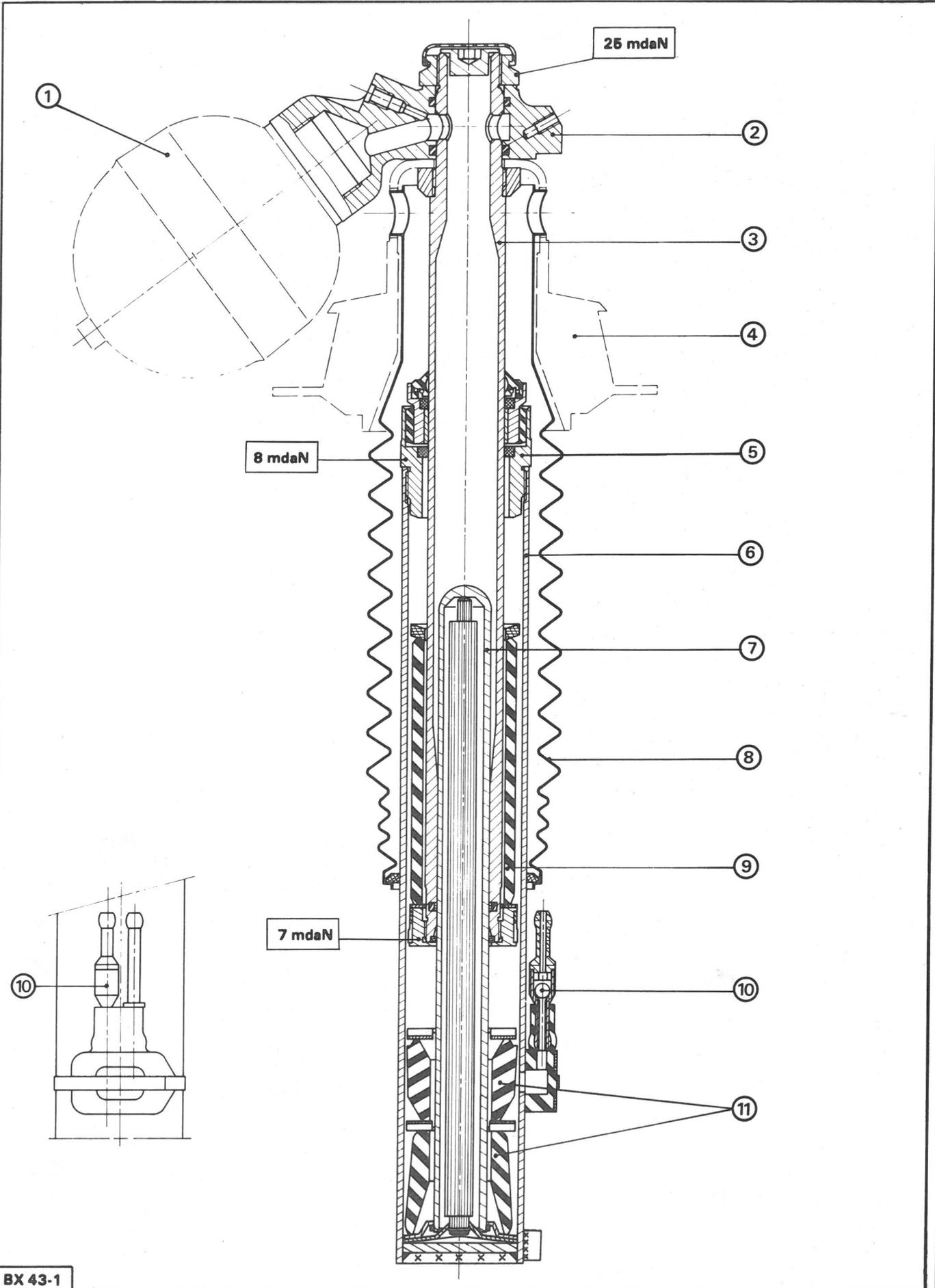
Through design, cylinder (3) is linked to the bodyshell and piston (7) to wheel hub.

Cylinder (3) and cylinder body (6), partly guided through filter (5) sliding, remain aligned.

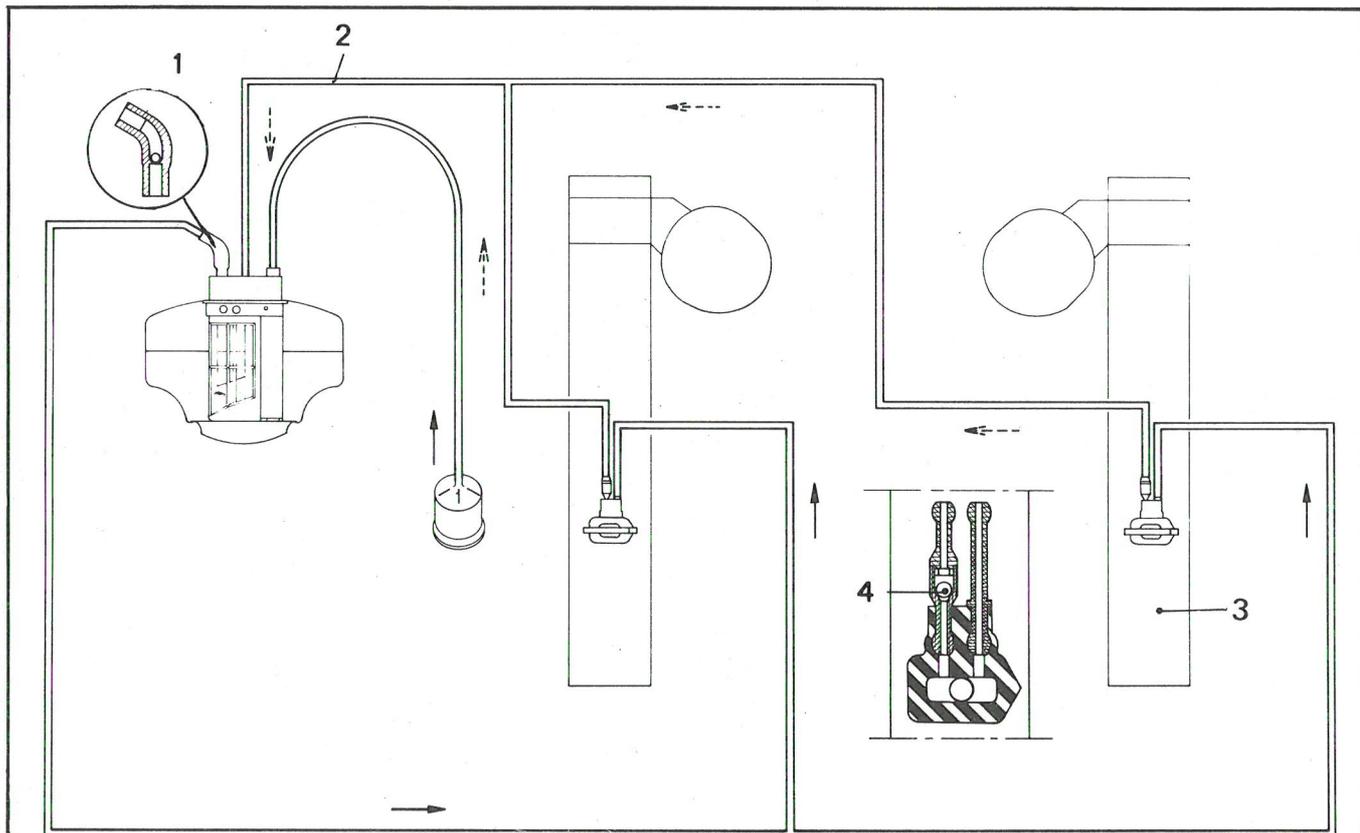
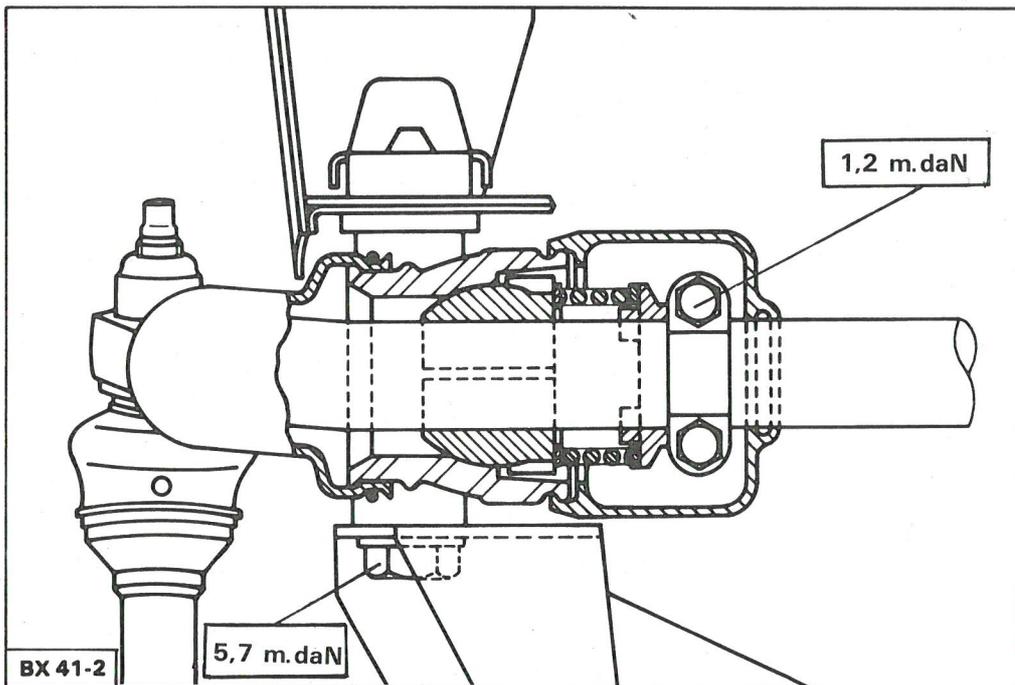
Pneumatic units :

- Calibration pressure (*engraved close to the plug*)
- Colour mark (*code : damper and calibration*)
- Volume

Front	Rear
55 ⁺⁵ - 10 bars	40 ⁺⁵ - 10 bars
Green Green Gold	Blue Blue Gold
400 cc	400 cc



BX 43-1



BX 39-3

SPECIAL FEATURES

Dampers :

Incorporated in the pneumatic units.

Cylinders-Pistons :

- Diameter
- Lubrication

The ports of the sphere support and the suspension cylinder should be in line.

Anti-roll bar :

BX 14 *diameter*

BX 16 *diameter*

Front	Rear
22 mm Internal leakage	35 mm LHM Fluid : 25 cc
22.5 mm 22.5 mm	16.5 mm 17 mm

BX 14 front anti-roll bar differs from BX 16 front anti-roll bar in its longer lever arm :

145 mm for BX 14
135 mm for BX 16

Manual height control :

Four positions : **Ground clearance**

- ① Low 90 mm
- ② Normal running 160 mm
- ③ Intermediate 190 mm
- ④ High 235 mm

Vent pipe and overflow return circuit of front suspension components, Fig. II

DESCRIPTION :

- At each suspension **extension**, plate valve (4) closes, plate valve (1) opens and **air** enters the cylinder body (3).
- At each suspension **compression**, plate valve (1) closes, plate valve (4) opens and **seepages** of the suspension cylinder, if any, are expelled via circuit (2).

Automatic height control.

ADJUSTMENT CONDITIONS

- Check the type pressure.
- Engine idling.
- Manual height control lever in « normal driving » position.

Adjustment.

The adequate height is obtained by rotating collar (1) of the automatic height control along the anti-roll bar, **Fig. I and II**. A play of **1.5 to 2 mm** between the ball-joint and the bottom of its recess should be observed.

Raise the vehicle by hand. Release when the weight becomes too great. The vehicle drops, then rises and stabilizes. **Measure height.**

Take the mean of the two measurements.

Front, Fig. III

Height : 160 ± 8 mm

Between the front axle unit rear crossmember and the surface on which the vehicle is standing.

Rear, Fig. IV

Height : 214 ± 8 mm

Between the rear axle unit crossmember tube and the surface on which the vehicle is standing.

Manual height control.

ADJUSTMENT CONDITIONS.

- **Automatic** height control **adjusted**.
- Engine idling.
- Manual control lever in « normal driving » position.

ADJUSTMENT :

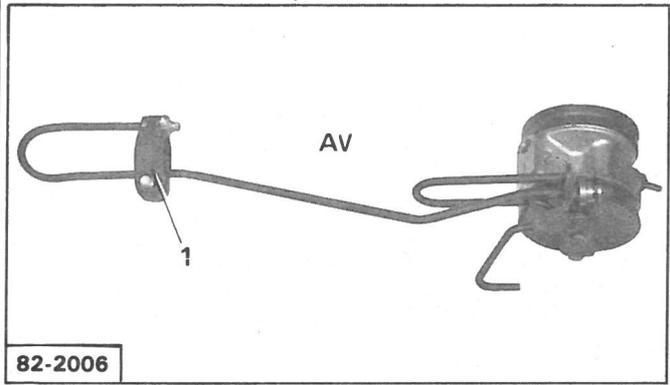
Rear, Fig. V

Move bracket (2) along the control rod until the corrector control is under pointer (3) of bracket (2).

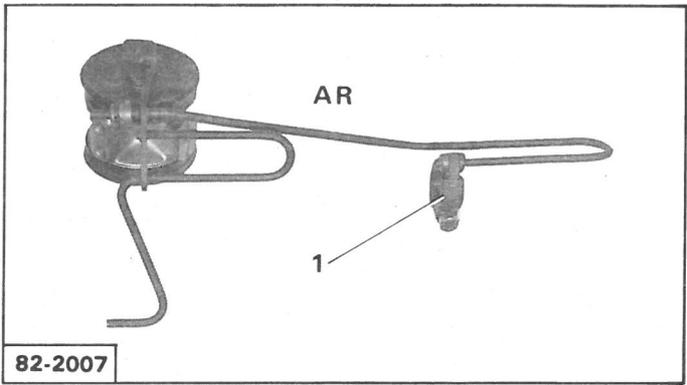
$$b = 4 \begin{matrix} +0.5 \text{ mm} \\ -0 \text{ mm} \end{matrix} \text{ et } A = 7 \begin{matrix} +0.5 \text{ mm} \\ -0 \text{ mm} \end{matrix}$$

Rear, Fig. VI

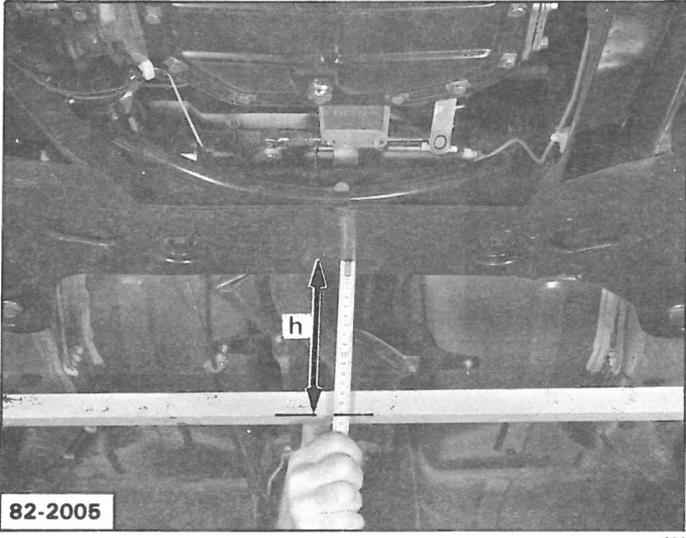
Move reversing lever (4) axis of rotation in order to bring the corrector control in the centre of the reversing lever hole. $L1 = L2$.



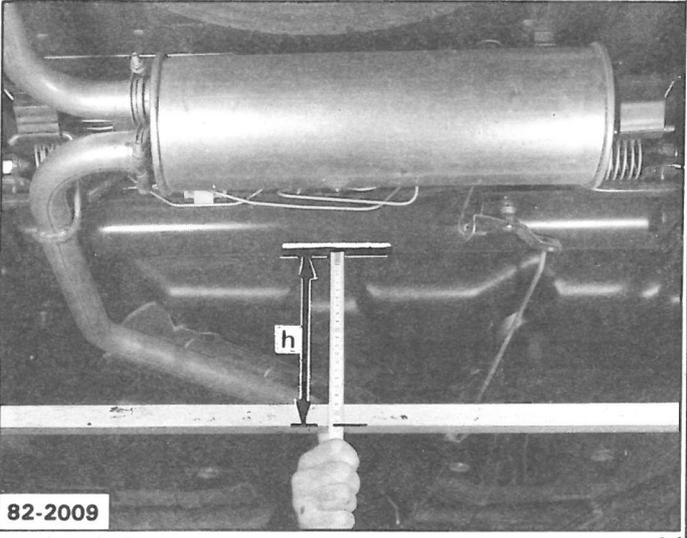
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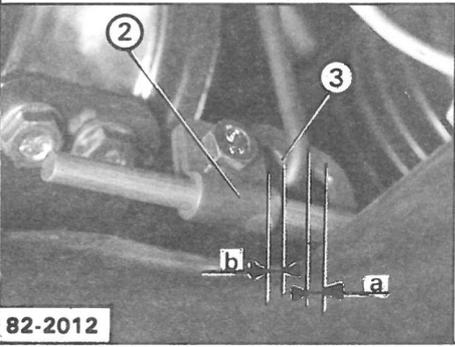
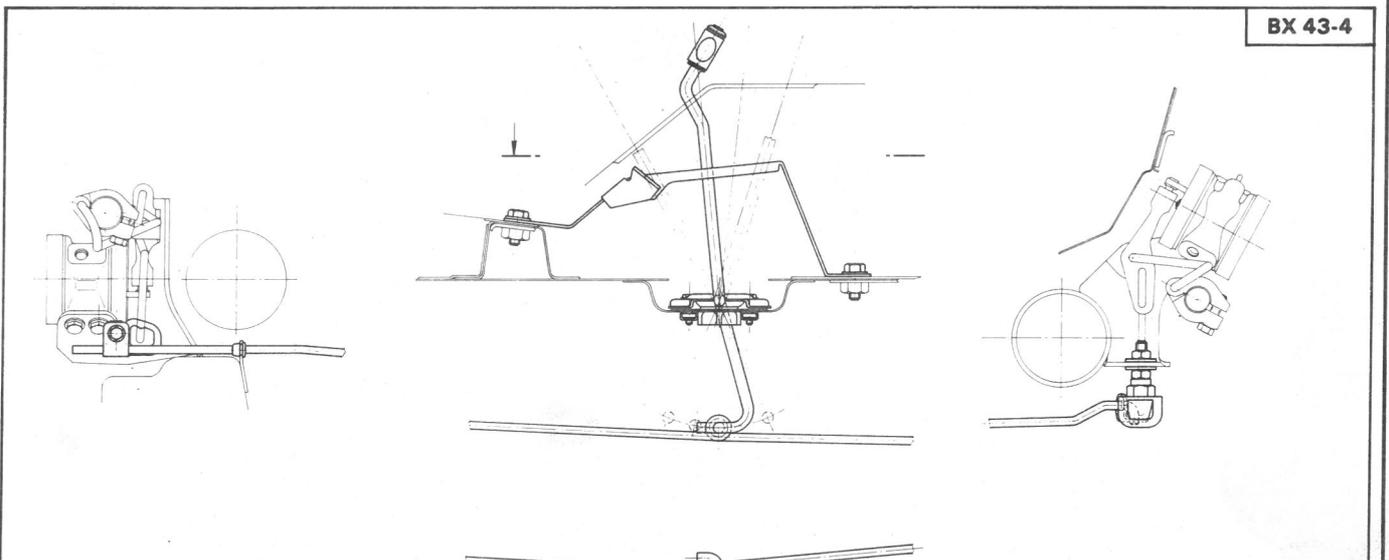
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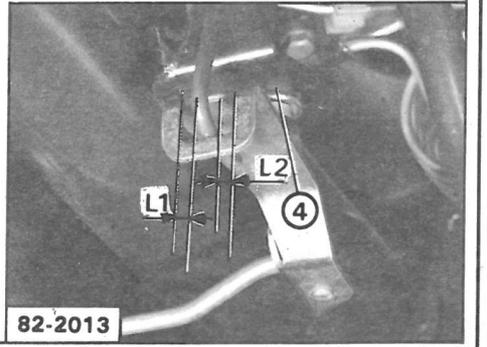
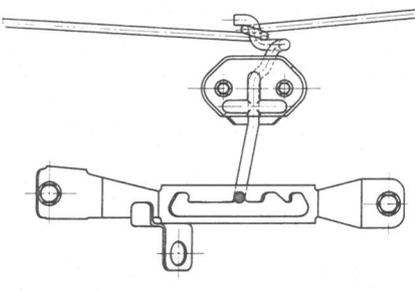
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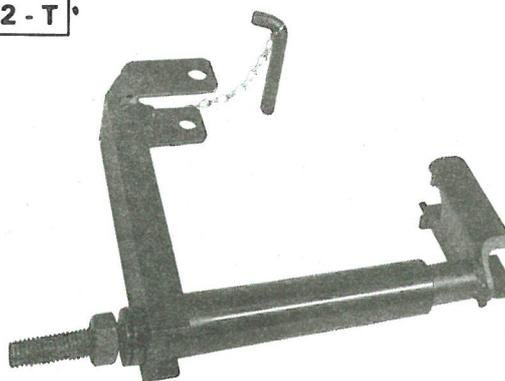
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8 0908 - T.C



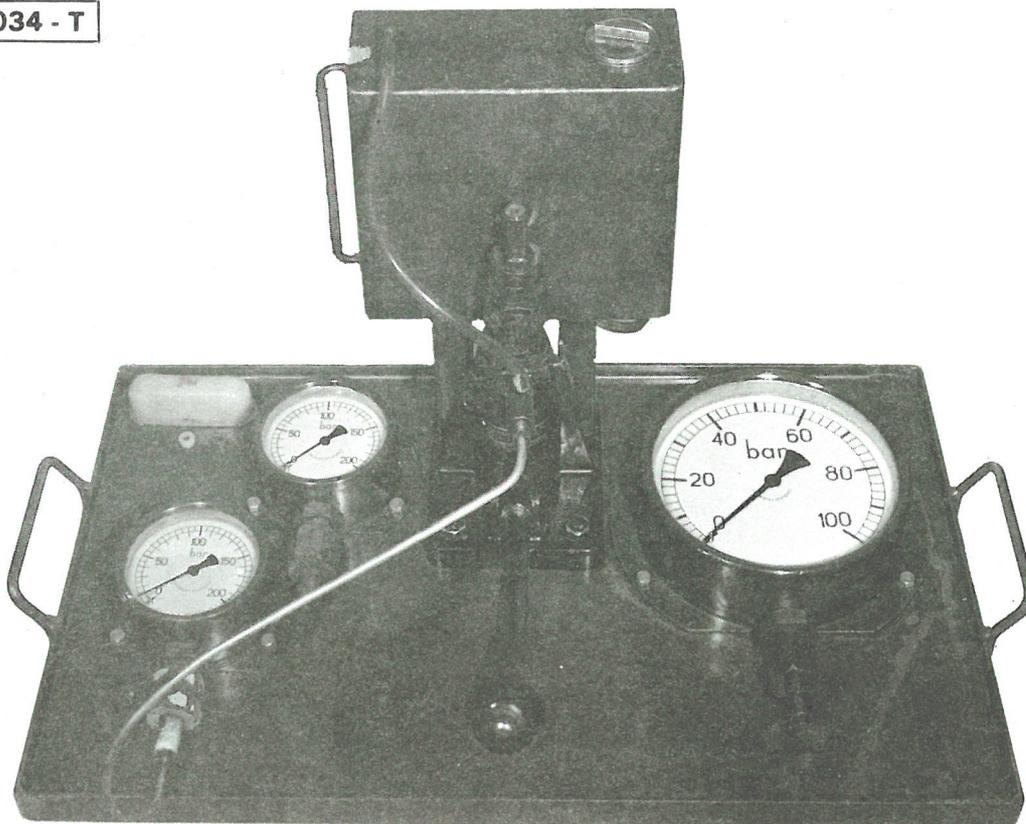
76-222

7102 - T



82-1903

4034 - T



82-1297

RECOMMENDED TOOLS

Chain wrench, reference FACOM 136.

From kit **8 0908-T** R.P. reference : **OUT 38 0908-T**

Use **C** for fixing the front suspension unit in the vice.

7102-T R.P. reference : **OUT 10 7102-T**

Anti-roll bar spring compressor.

4034-T

Test bench for checking the hydraulic components.

*WORKING ON HYDRAULIC SUSPENSION
COMPONENTS*

I- REMOVING AND FITTING A FRONT HYDRAULIC SUSPENSION UNIT

REMOVAL.

Place front of vehicle on stands with the wheels hanging free.

Remove the wheel.

Release pressure actuating the pressure regulator.

Set the height control lever to the low position.

It is recommended to drive the maximum of oil out of the cylinder by compressing the suspension with a jack.

Remove sphere, Fig. I.

Do not remove sphere support « A ».

Disconnect the suspension cylinder feed pipe, Fig. II from union (4) and the two securing clamps (1) and (2).

Remove the three nuts (3).

Disengage the suspension component from the bodyshell, Fig. III.

Disconnect overflow return and vent pipes (5) and (6).

Remove nut (7) and screw, Fig. IV.

Open the pivot clamp with a screwdriver : Fig. V.

Withdraw the suspension components.

FITTING.

Open the pivot clamp with a screwdriver, Fig. V.

Engage the suspension component fully home.

Centre pin (8) into the pivot slot (Fig. VI).

Fit screw and locking nut (7).

Tightening torque : 7 m.daN

Couple overflow return and vent pipes (5) and (6), Fig. III.

The rubber pipes should not be fitted cross-wise.
(See circuit diagram : Operation XB. 430-00).

Position the suspension component inside the bodyshell Fig. II.

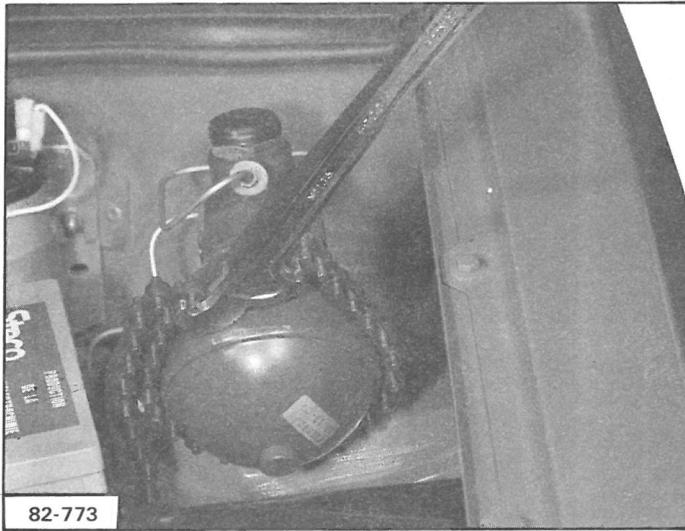
Fit the three nuts (3) (serrated washers).

Tightening torque : 2 m.daN

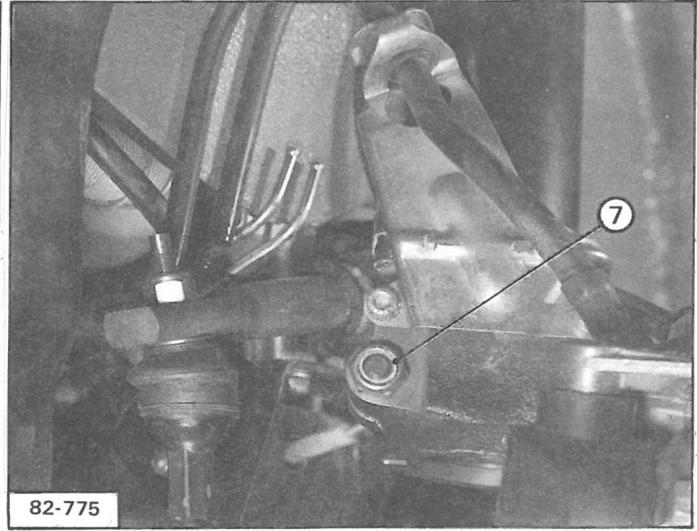
Couple the feed pipe, tighten union (4) (new seal) and clamps (1) and (2).

Grease the sphere support face and assemble the sphere (new seal).

Fit the wheel.

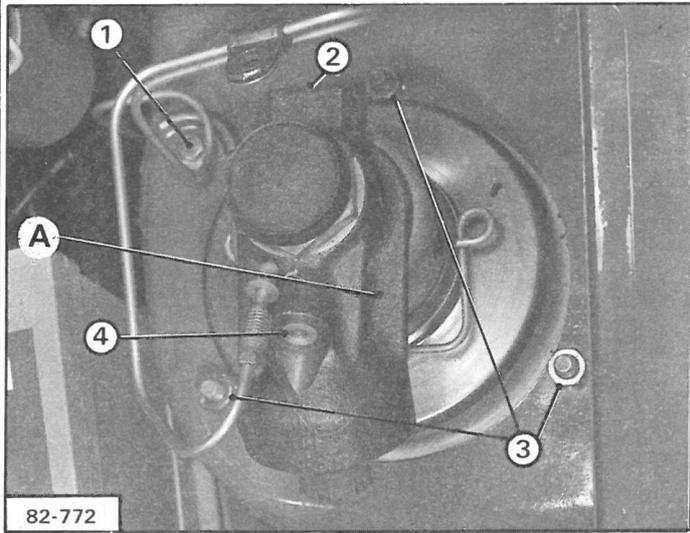


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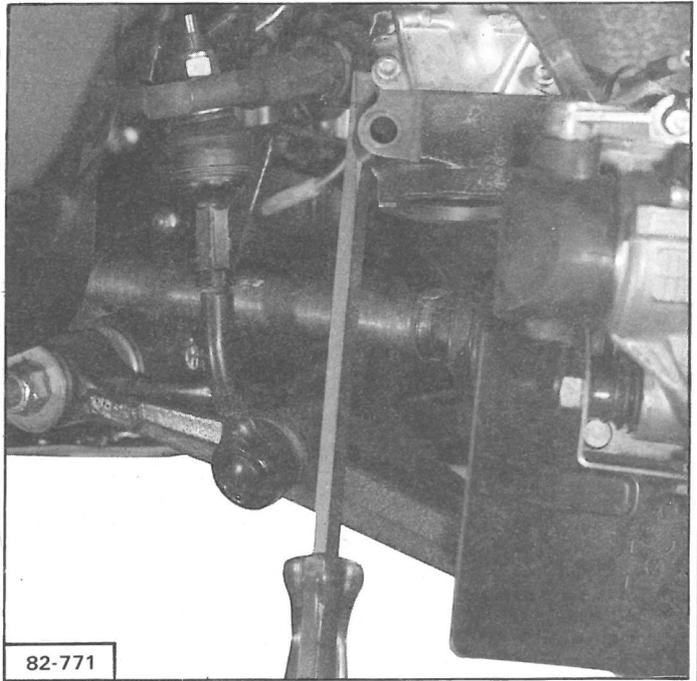


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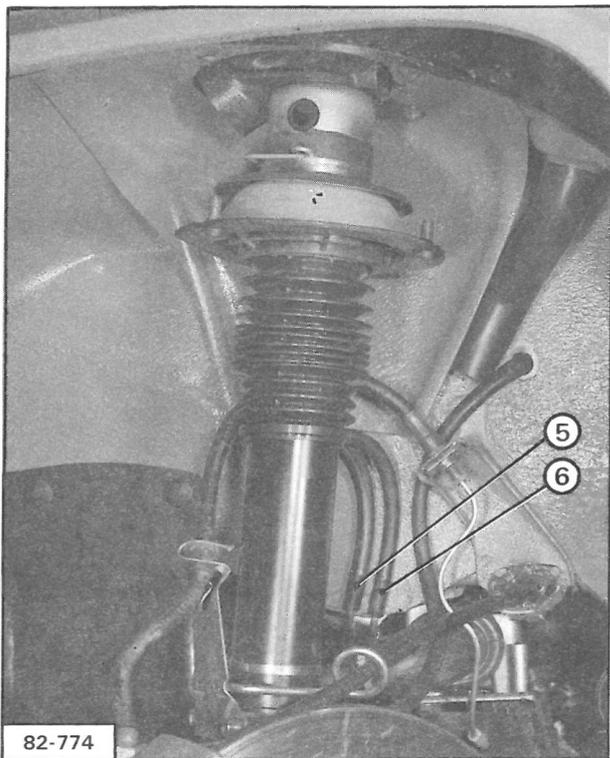


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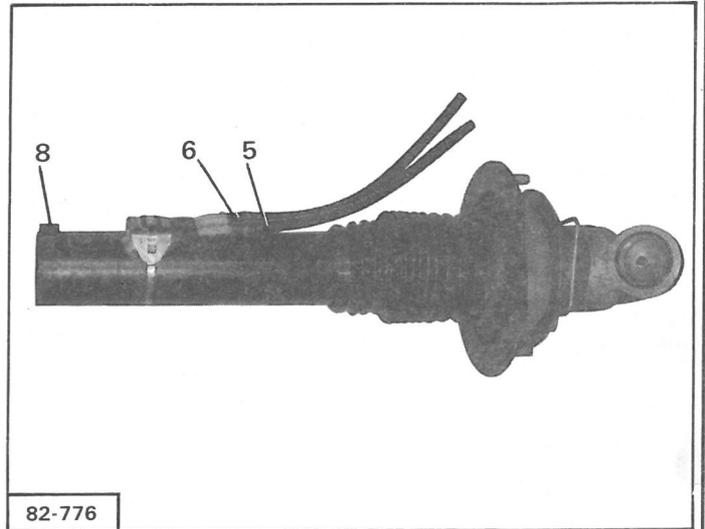


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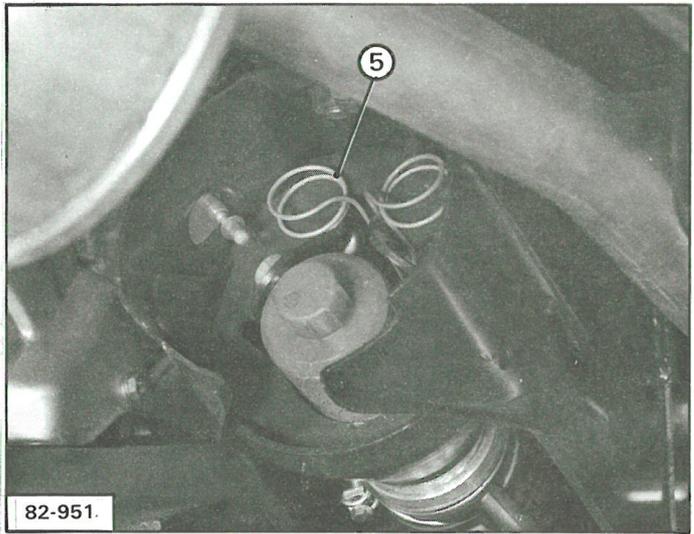
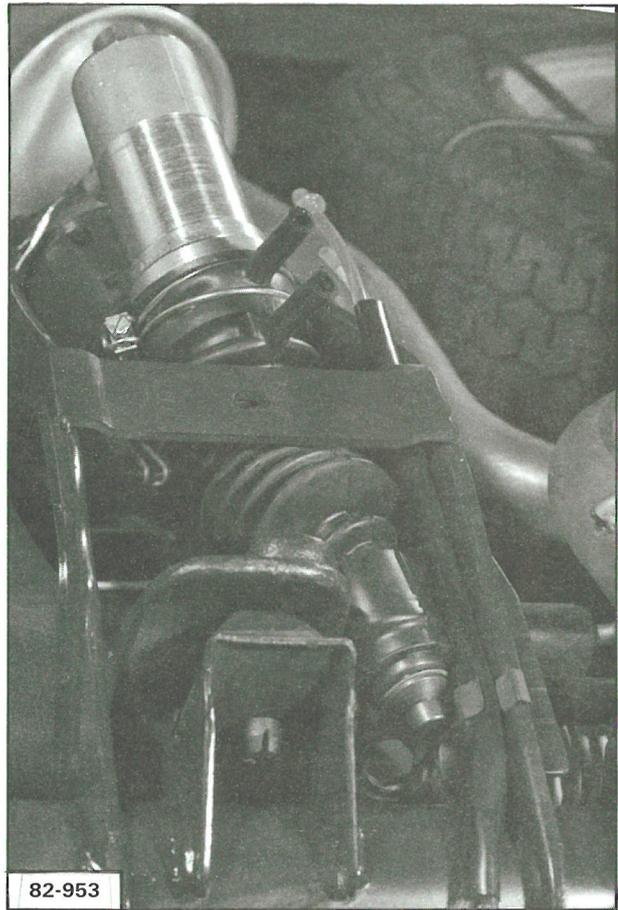
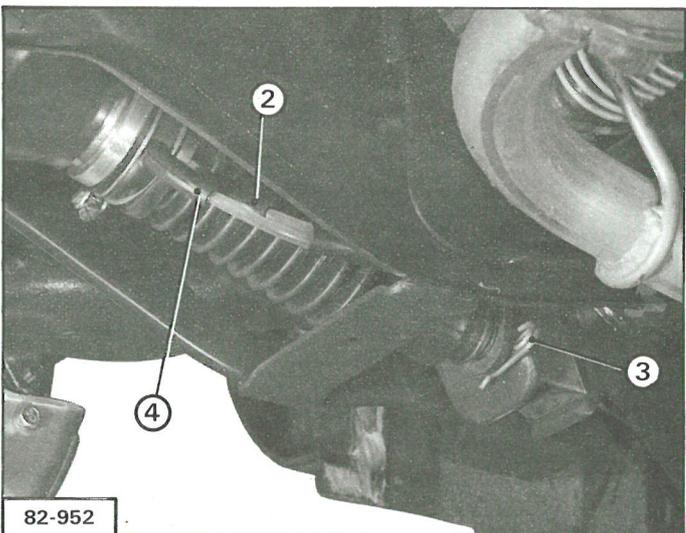
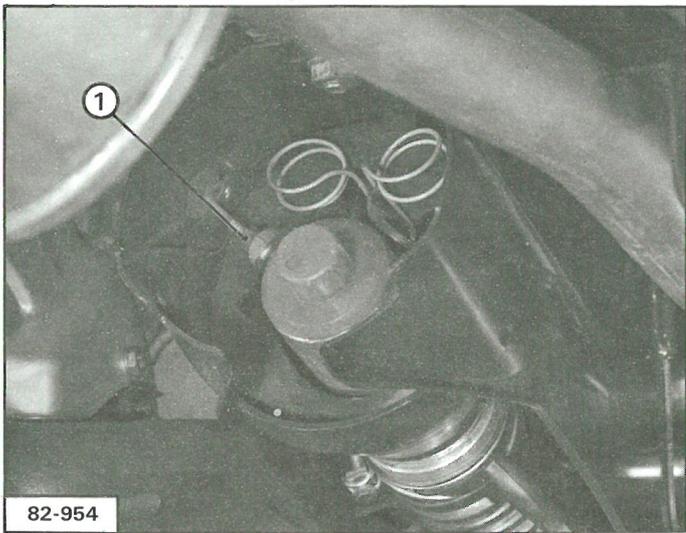
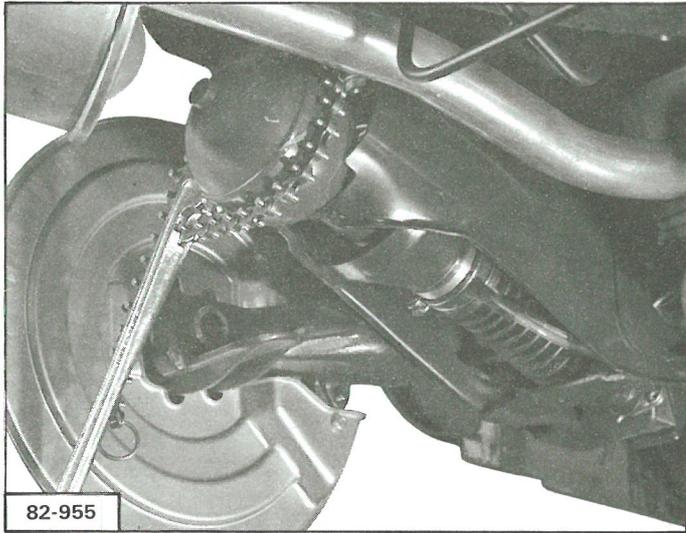


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VI



II- REMOVING AND FITTING A REAR HYDRAULIC SUSPENSION UNIT

REMOVAL

Chock the rear of the vehicle, wheels free.

Remove the wheel.

Release the pressure at the pressure regulator.

Place the height control lever in the « down » position.

It is recommended to let as much oil as possible flow out of the cylinder by raising the rear arm.

Remove the pneumatic unit; **Fig. I.**

Disconnect the cylinder supply union (1) **Fig. II.**

Disconnect overflow return pipe (4) and vent pipe (2), **Fig. III.**

Remove clip (3) of suspension rod.

Remove cylinder **Fig. IV.**

With the arm hanging free, insert the suspension rod between the stop and the rear part of the subframe. Withdraw the cylinder.

FITTING.

Engage the suspension rod and put the cylinder into place. Position spring end part (5) behind the cylinder union, **Fig. V.**

Assemble supply union (1), **Fig. (new seal).**

Couple the overflow return pipe (4) and vent pipe (2) (referenced blue), Fig. III.

Install clip (3) of suspension rod , **Fig. III.**

Grease the cylinder support face and assemble the pneumatic unit (*new seal*).

Fit the wheel.

I- REMOVING AND FITTING A FRONT HEIGHT CORRECTOR**REMOVAL.**

Release pressure by operating the pressure regulator and set the manual height control lever to the « low » position.

Uncouple : **Fig. I and II**

- front suspension feed pipe (1),
- high pressure feed pipe (4),

Remove screws (2).

Swivel the height corrector to enable rubber exhaust pipe (5) and overflow return pipe (3) to be removed.

Remove the height corrector.

FITTING.

Offer up the corrector and couple overflow return pipe (3) and rubber exhaust pipe (5). *Tighten the collar of the latter.*

Start screwing in the union nuts of pipes (4) and (1) by hand (*new seal*).

Fasten the height corrector, screw (2).

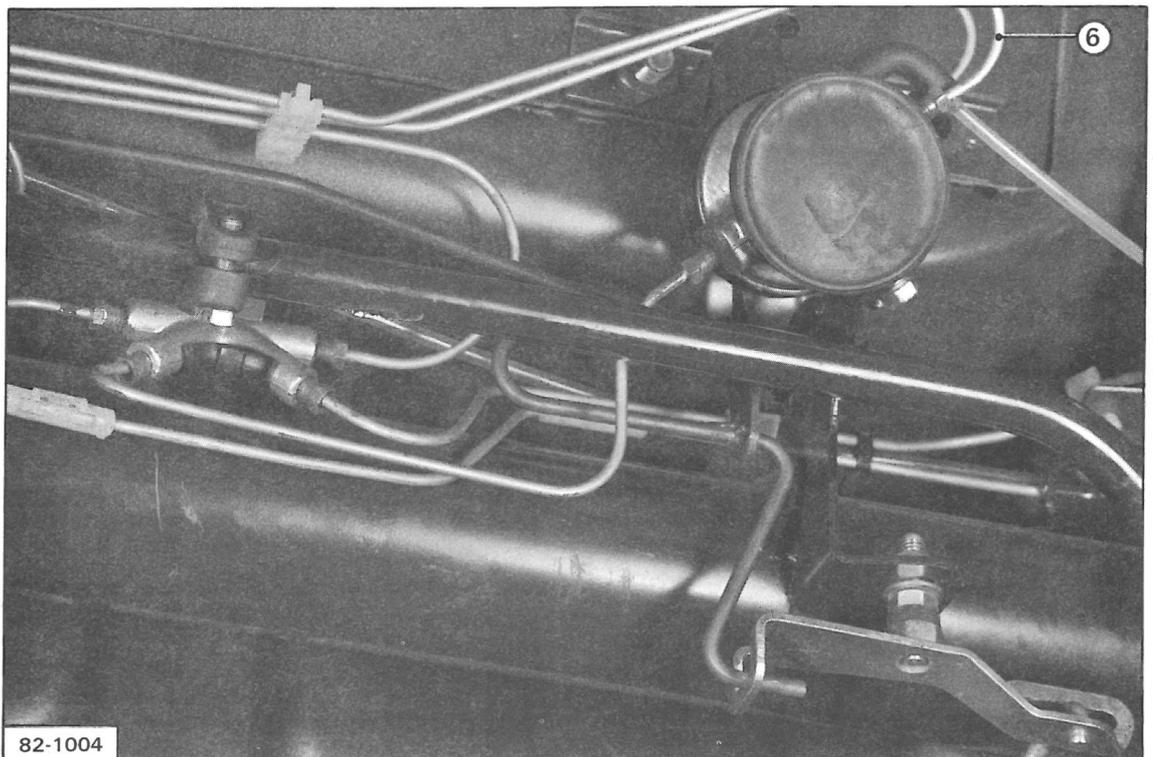
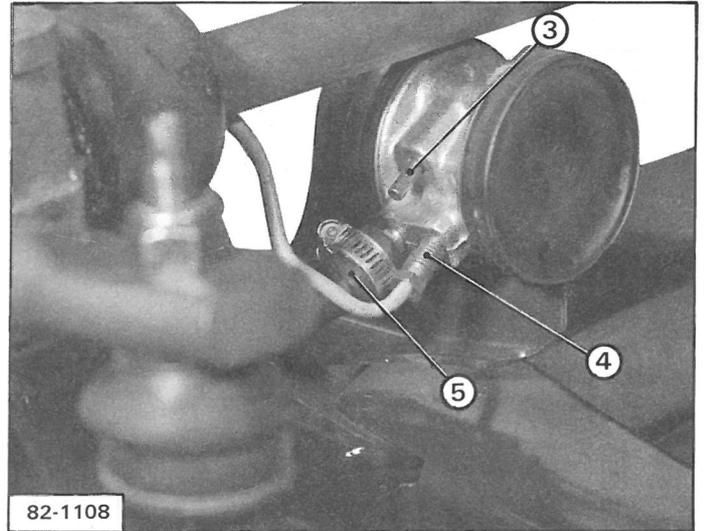
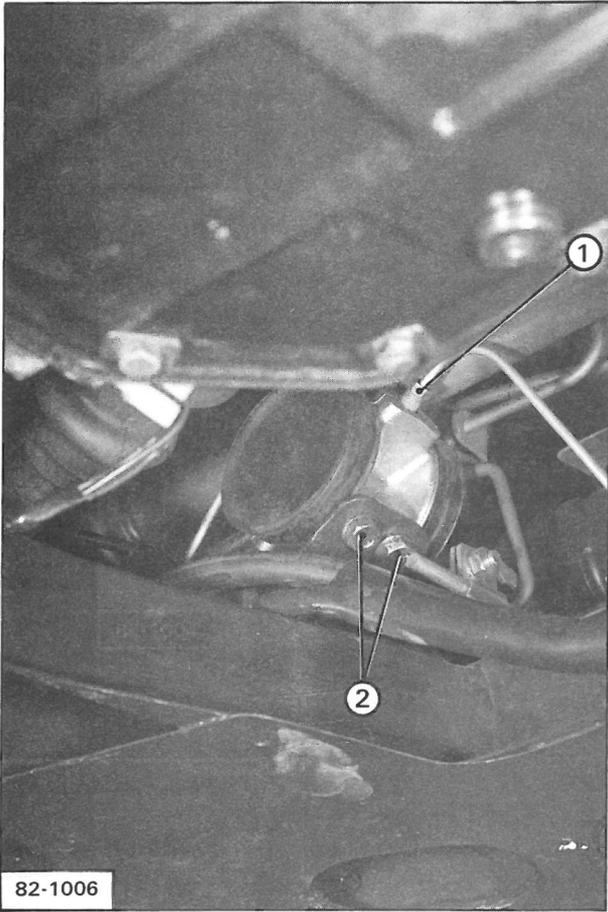
Complete the union-nuts tightening.

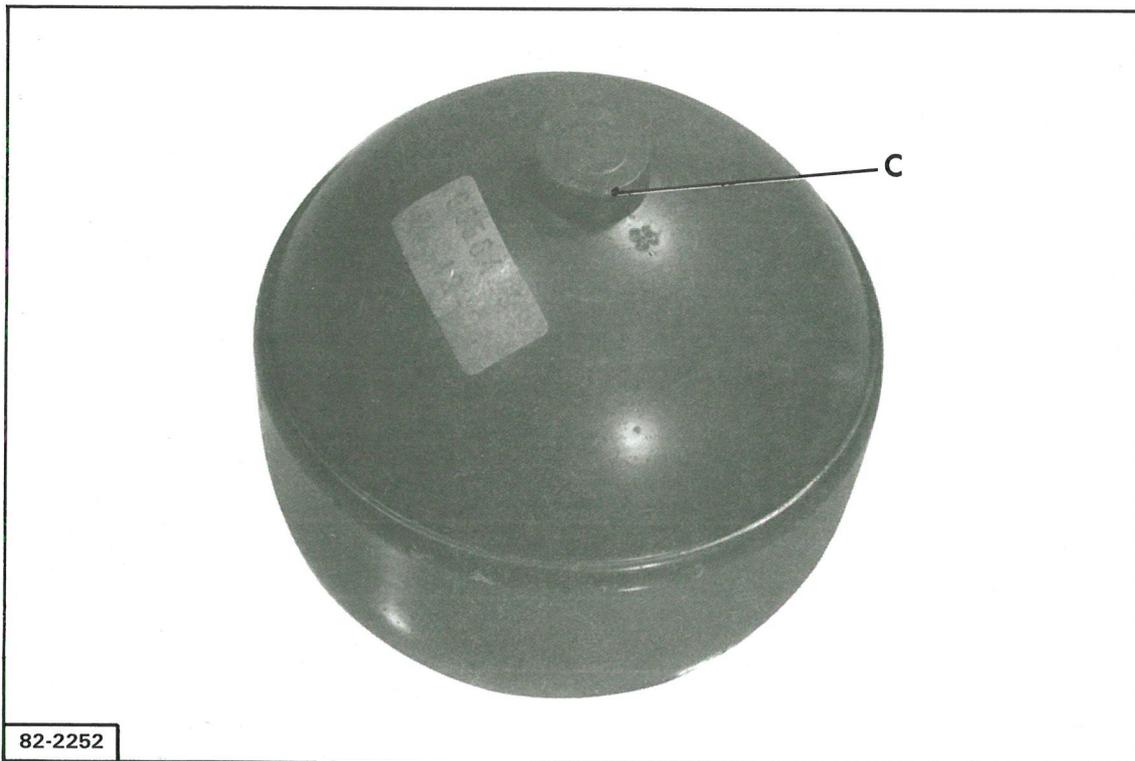
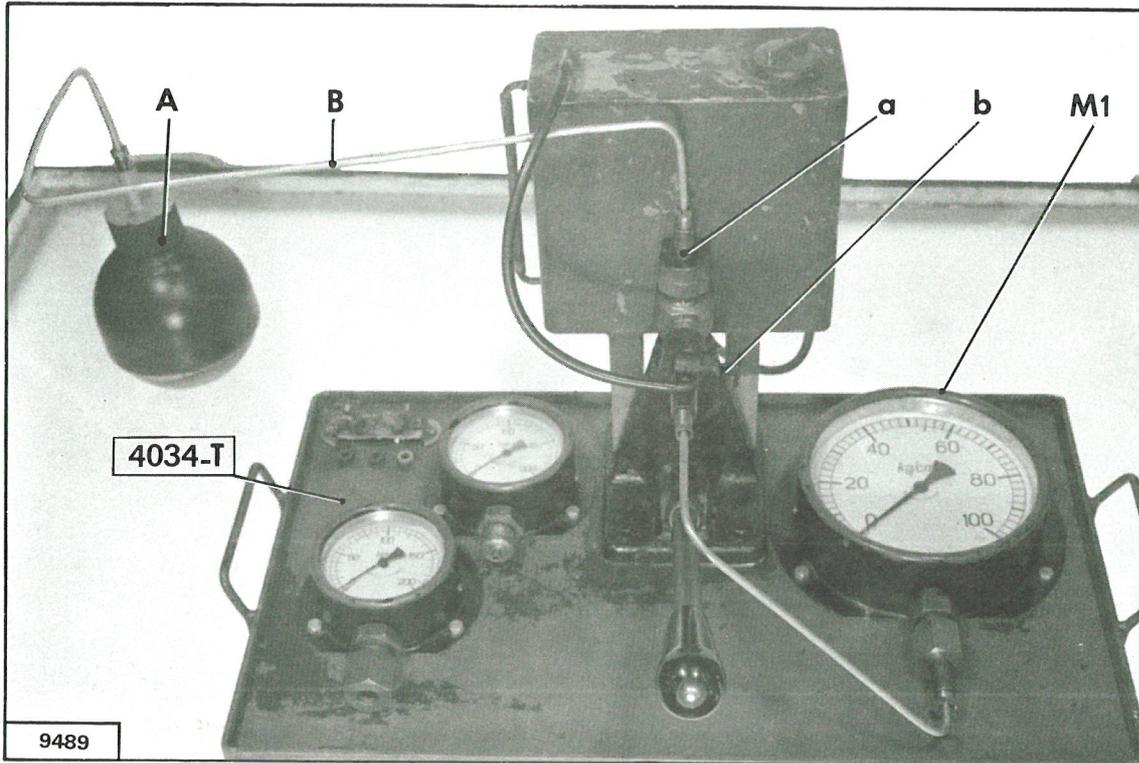
Pressurize the circuits and check union tightness.

Check heights (*Op. XB. 430-0*).

II. REMOVING AND FITTING A REAR HEIGHT CORRECTOR.

This operation is identical to the one for the front height corrector with the exception of exhaust pipe (6) being made of steel instead of rubber. **Fig. III.**





CHECKING A REMOVED PNEUMATIC UNIT (on a main accumulator)

Use test bench **4034-T** and its accessories.
Connect pump to pressure gauge **M 1** (0 to 100 bars).

Screw up union **A** equipped with a seal.

Read the figure engraved close to the pneumatic unit plug **C**.
This figure indicates the rated value of pressure for the pneumatic unit (or the accumulator).

Couple up union **A** to pump opening « **a** », using pipe **B**.
Tighten bleed screw « **a** ».

Pump until pressure goes up.

Watch pressure gauge **M 1** : the pressure comes to a standstill, then rises quickly and stabilizes : the reading registered is the value of inflation pressure.

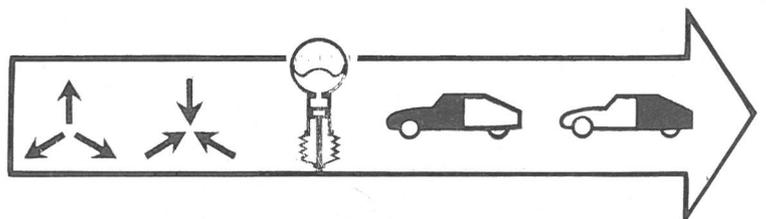
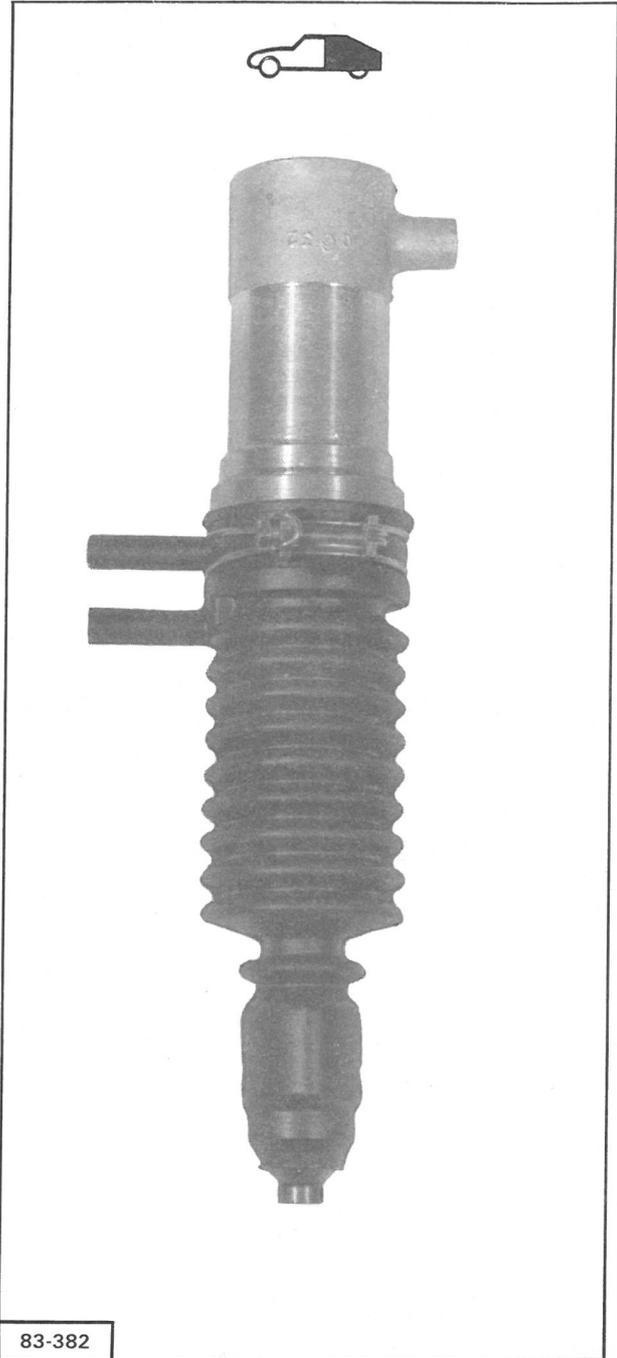
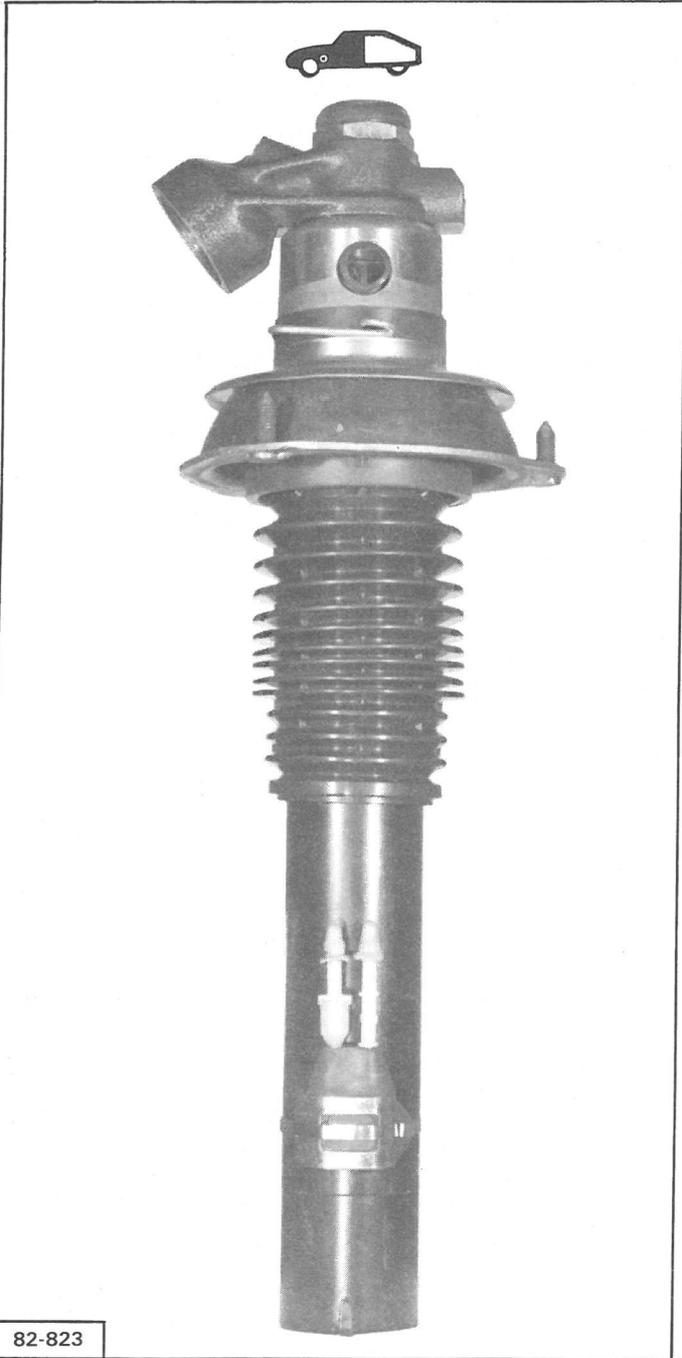
Inflation pressure at 20° C for check :

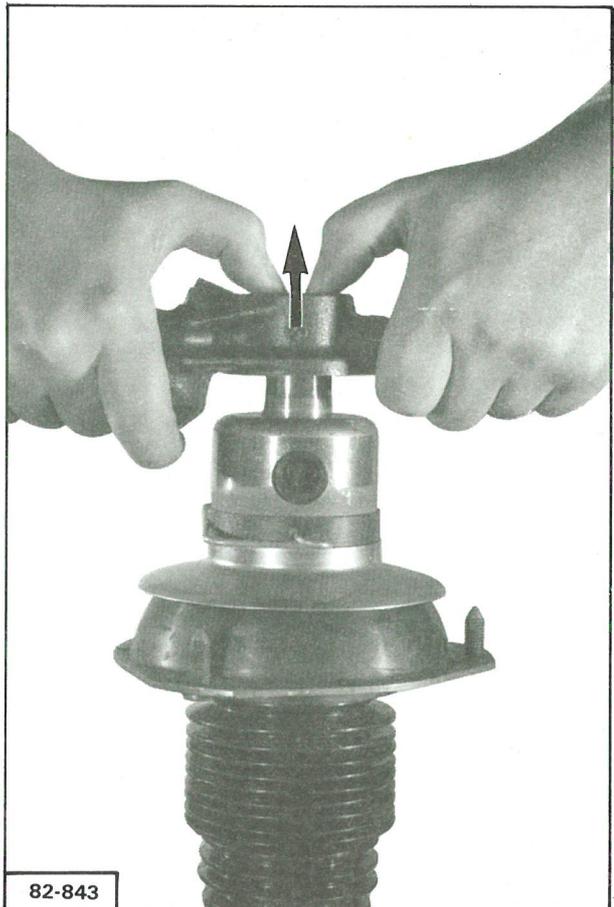
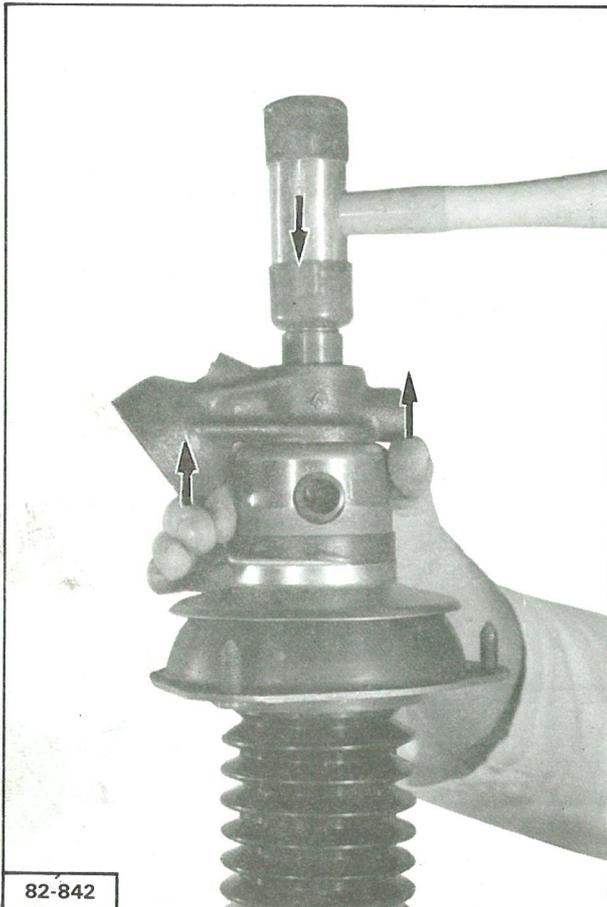
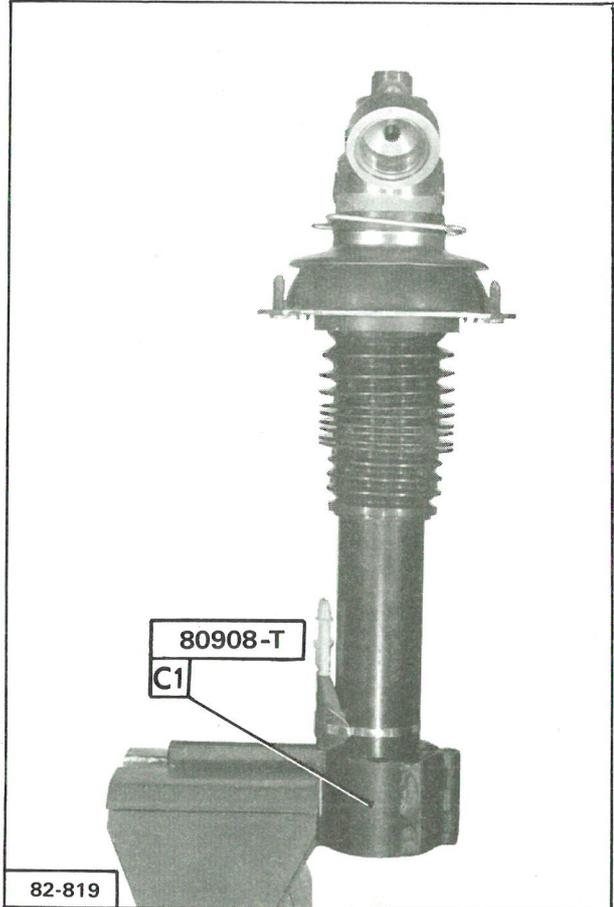
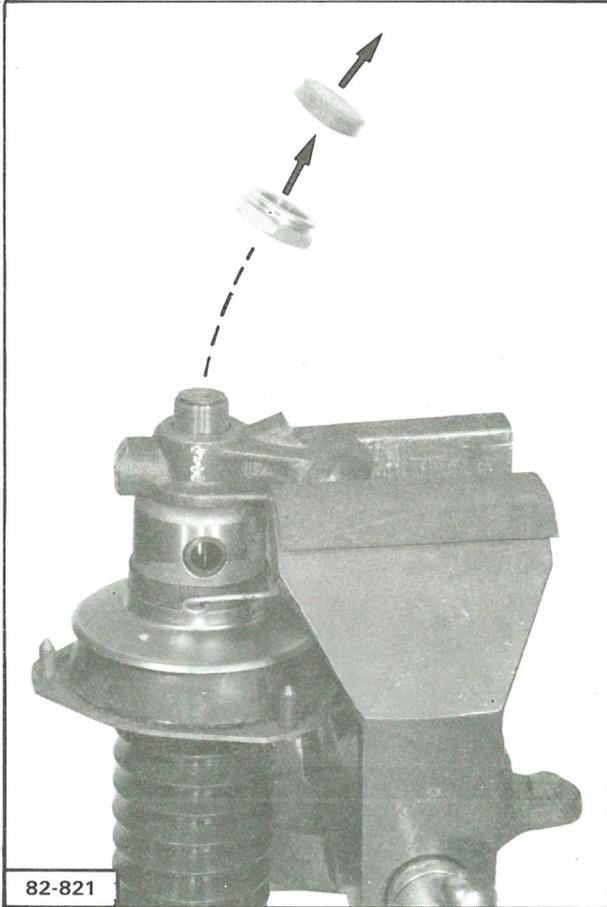
Front pneumatic unit	55^{+5} bars - 10
Rear pneumatic unit	40^{+5} bars - 10
Main accumulator	62^{+2} bars - 32

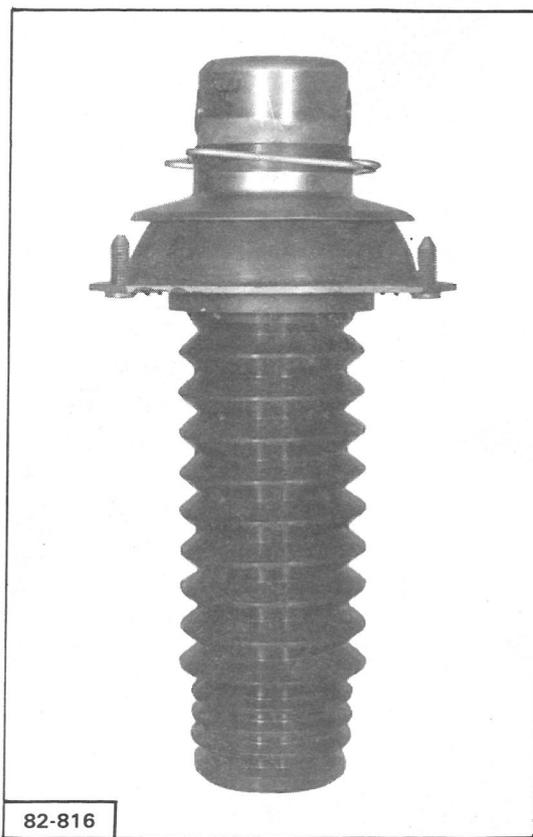
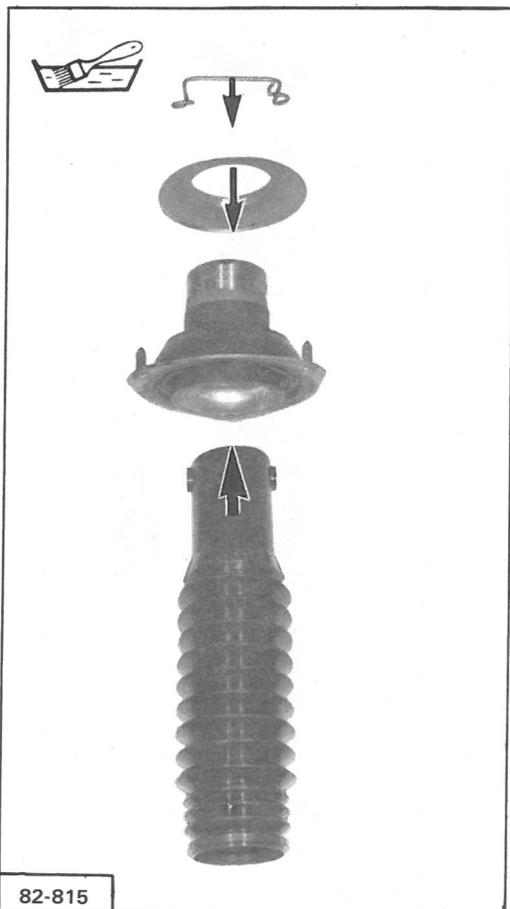
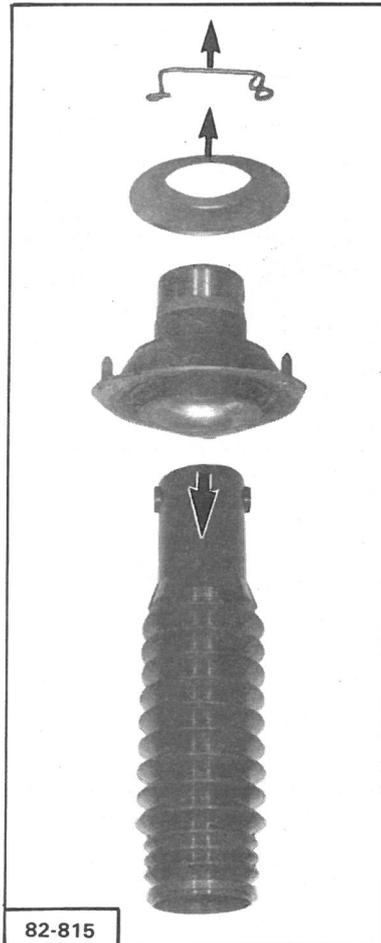
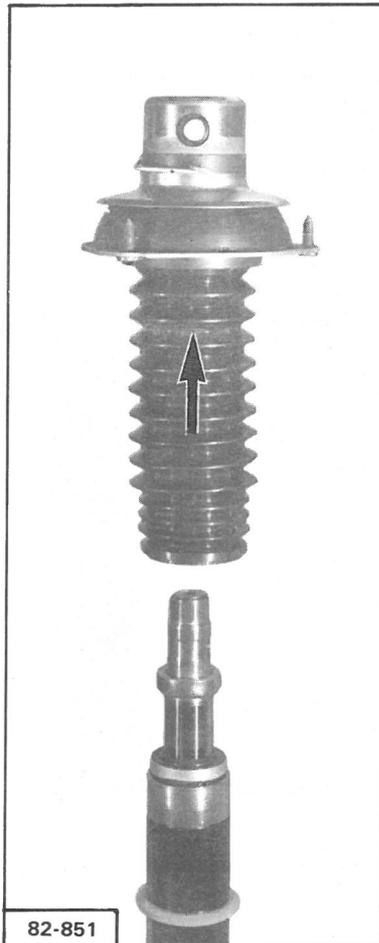
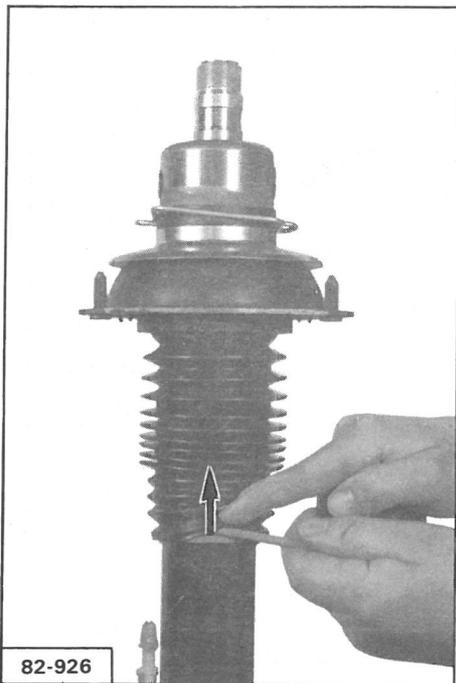
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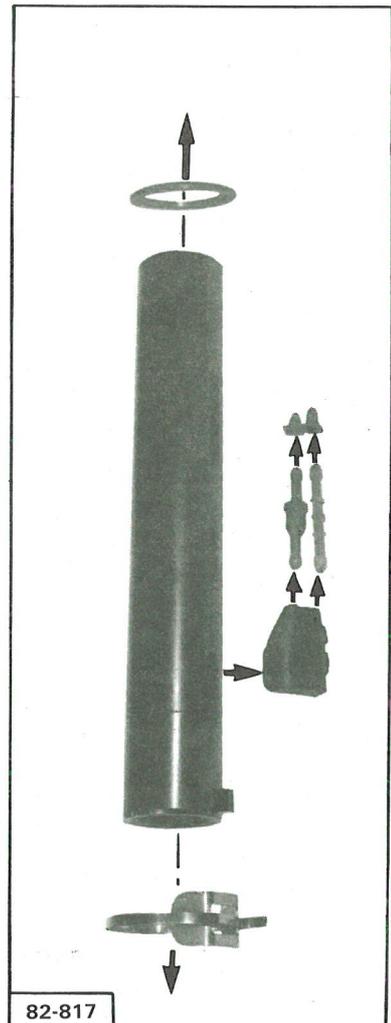
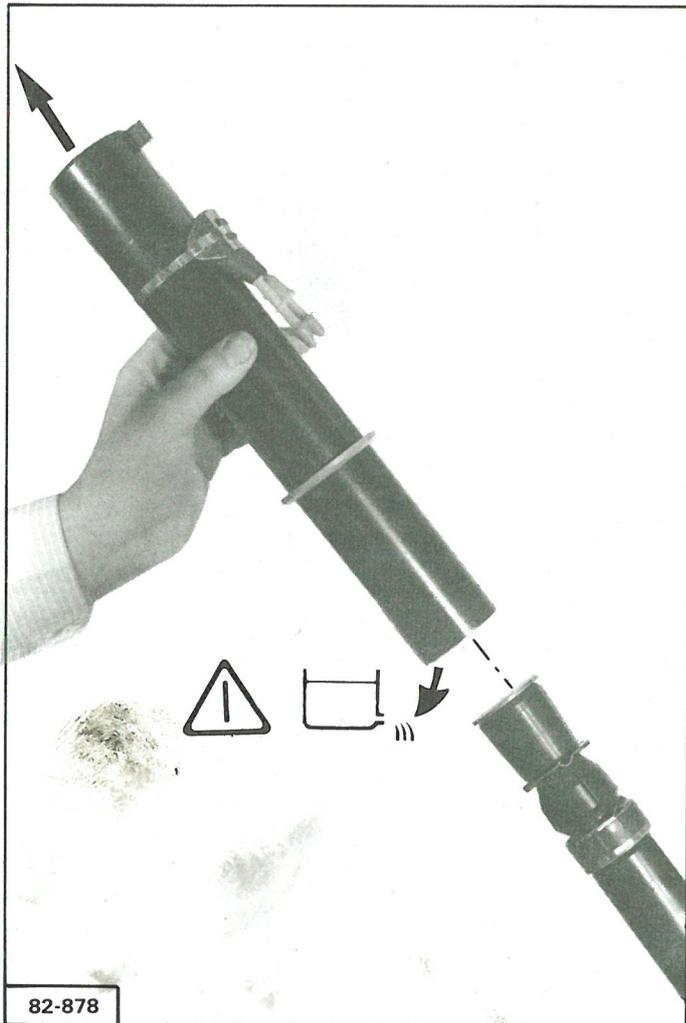
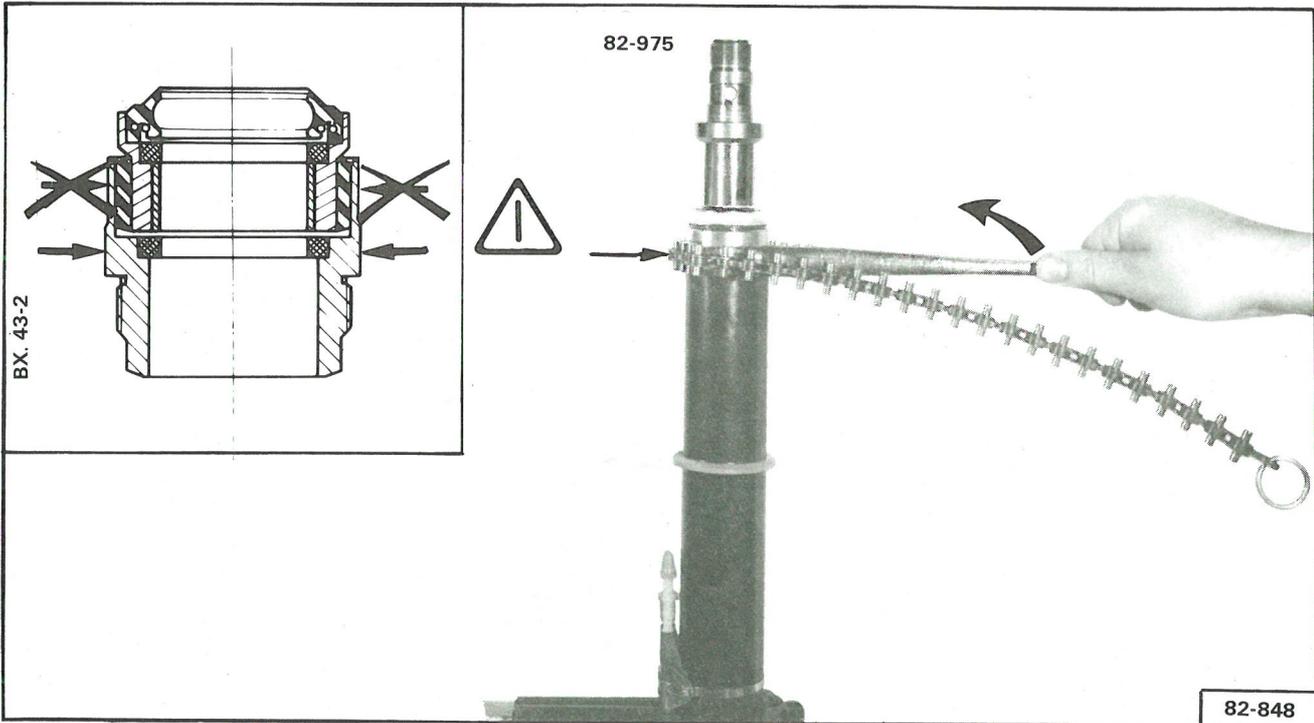
Drop pressure by slackening bleed screw « **b** ».

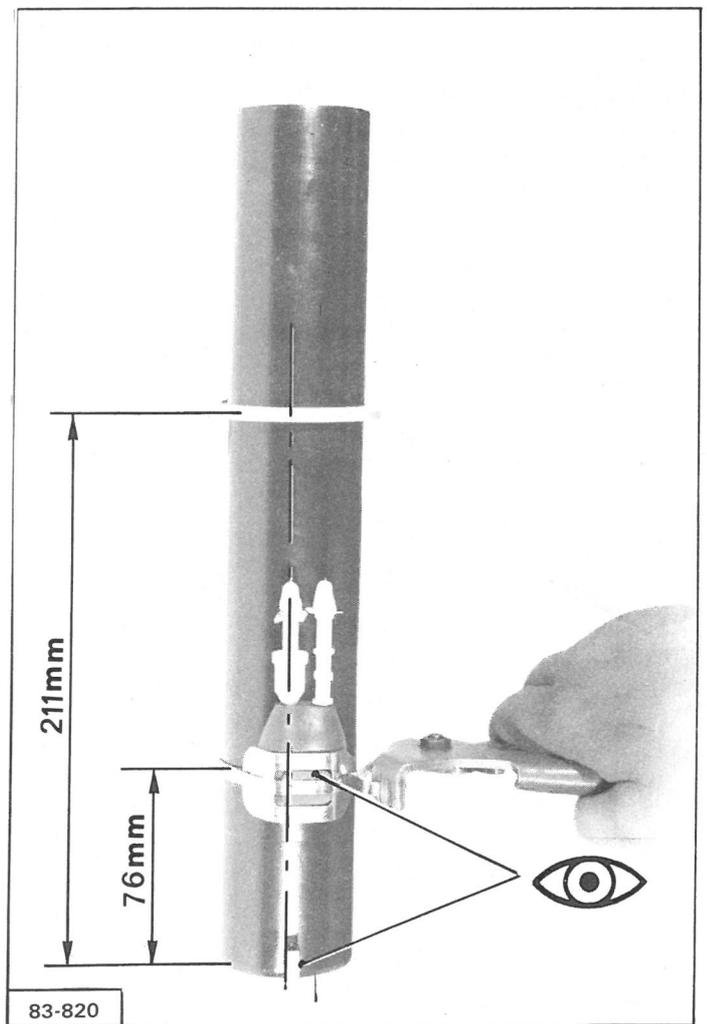
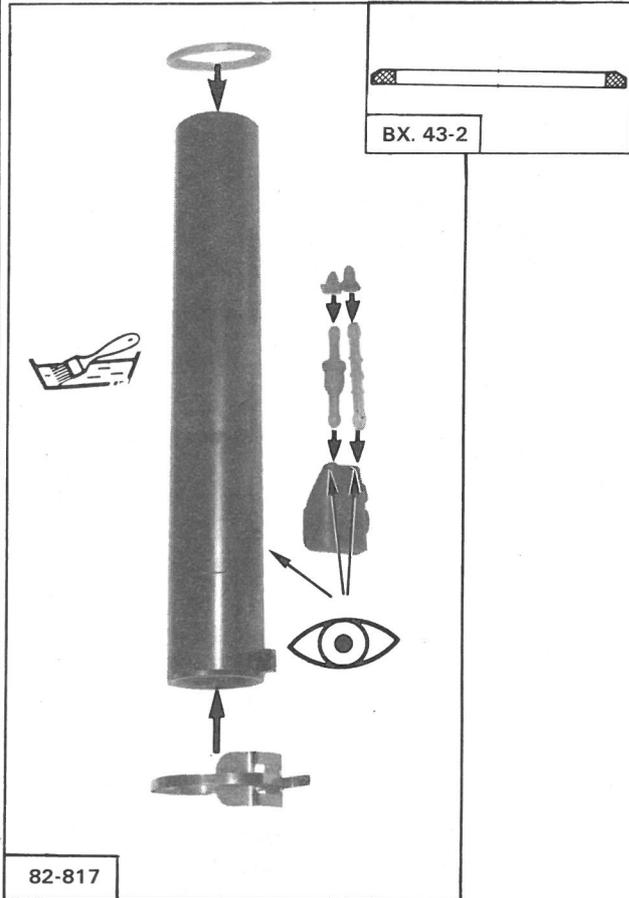
Remove pipe **B** and union **A**.











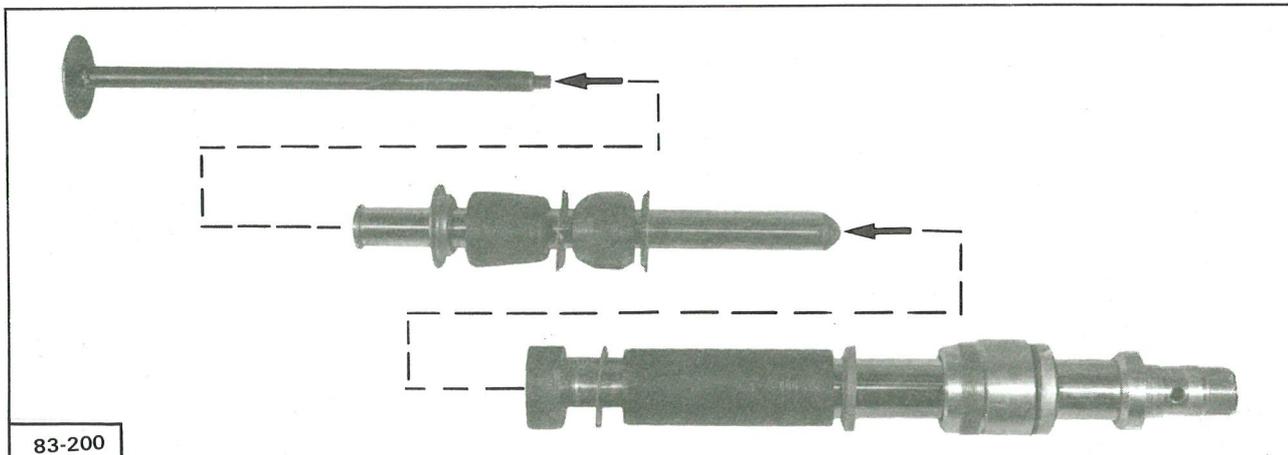
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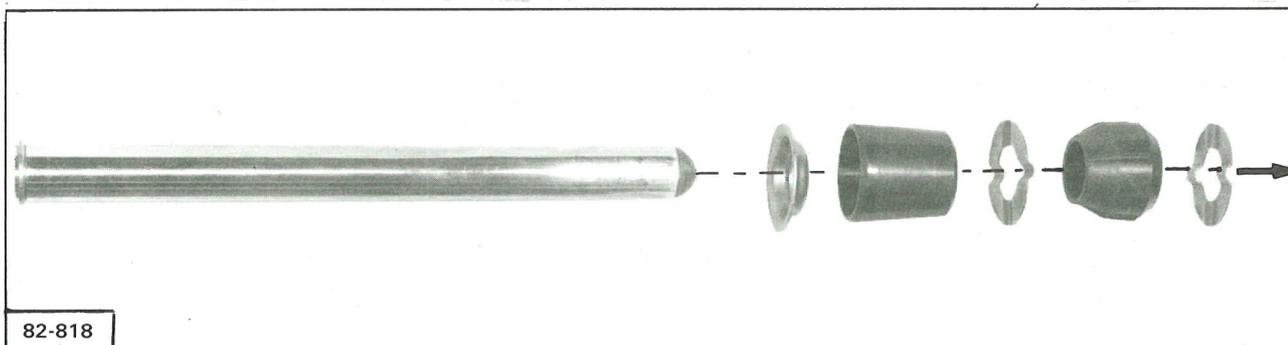


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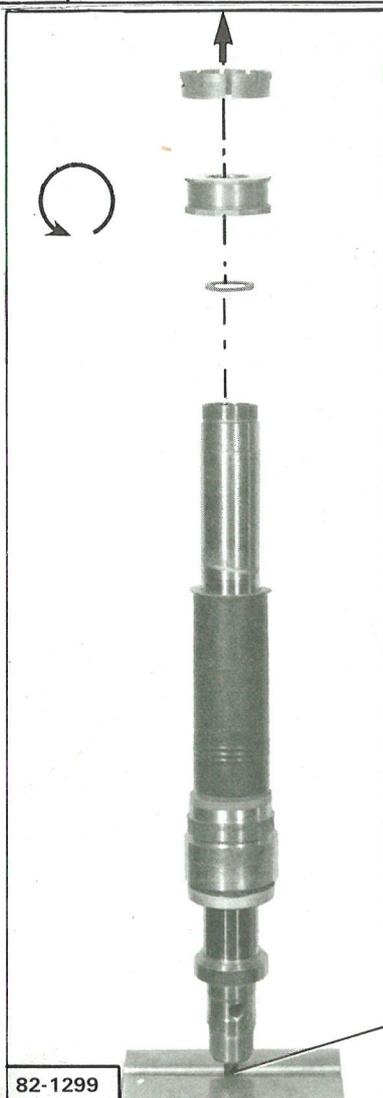
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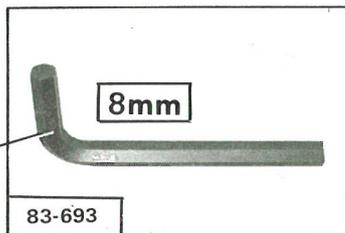
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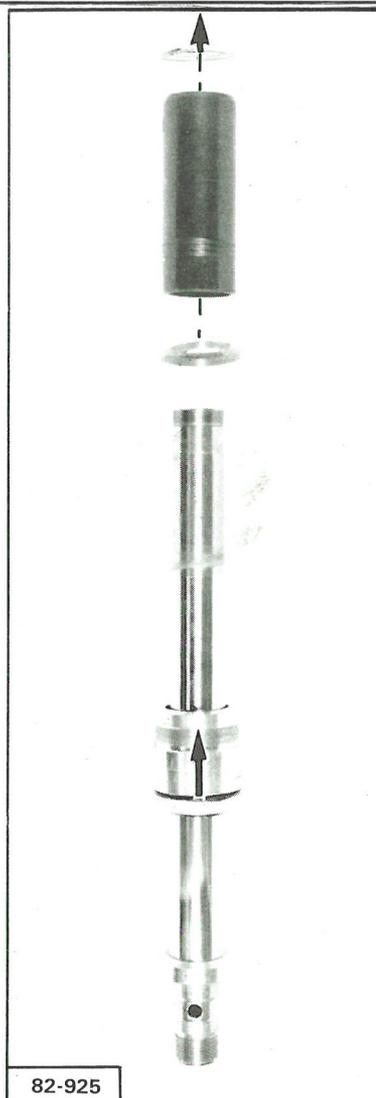
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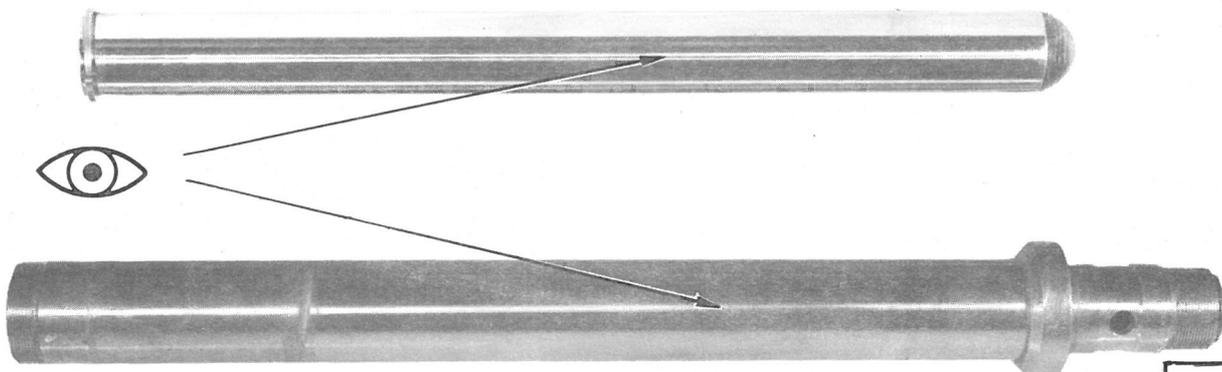
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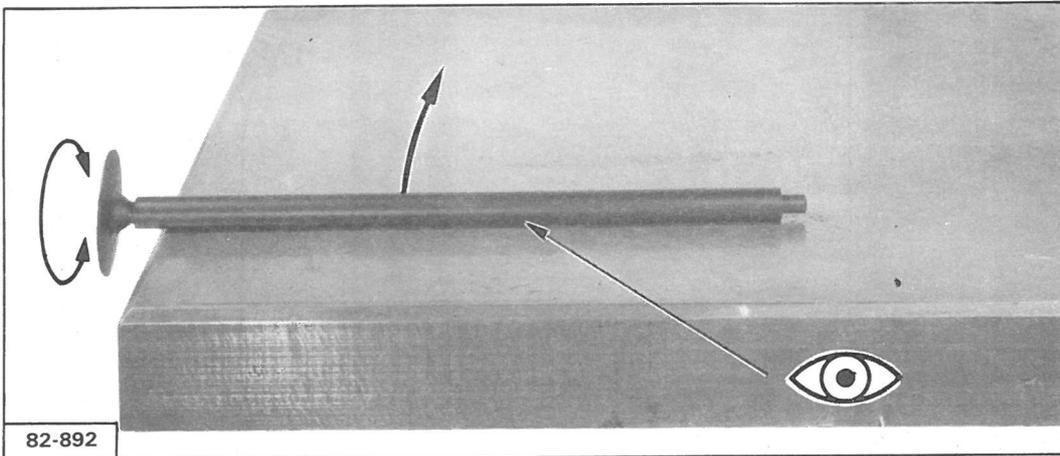
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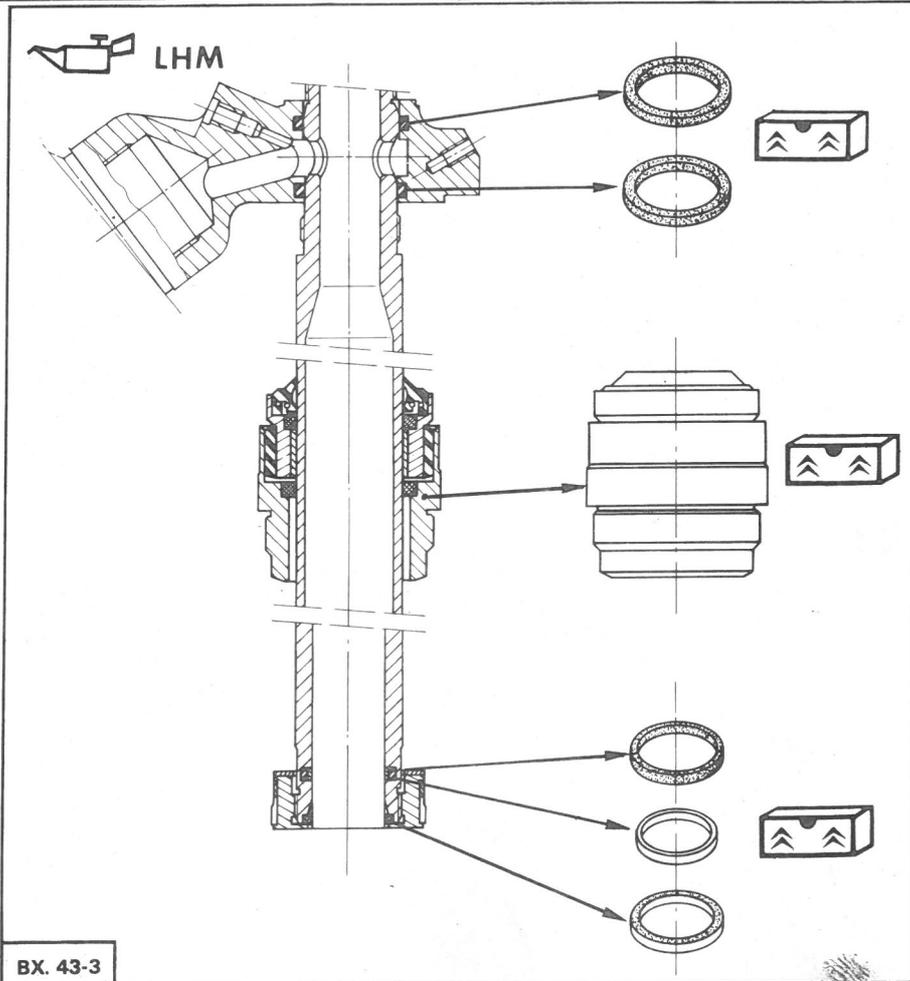
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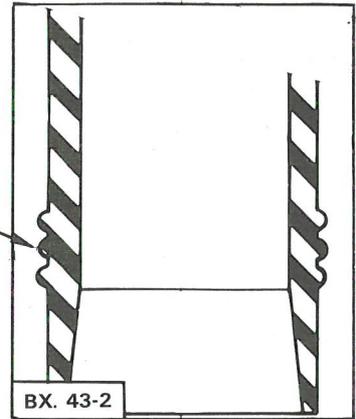
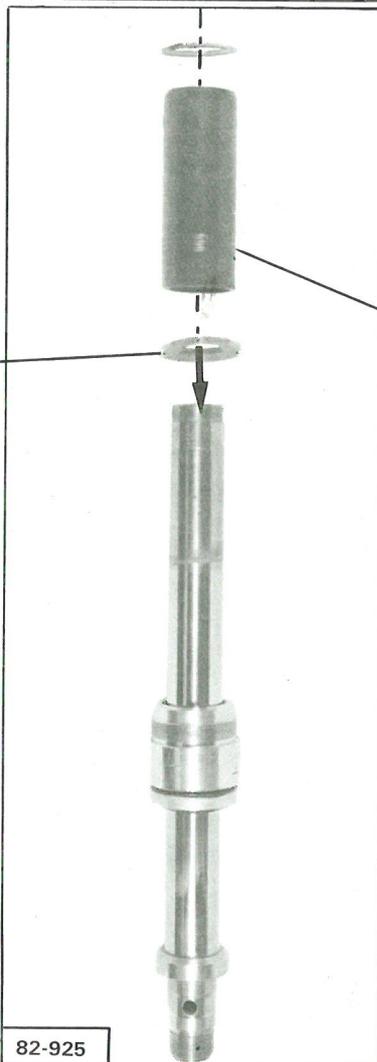
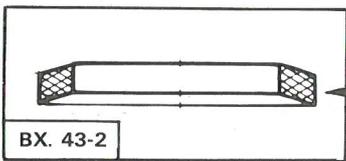
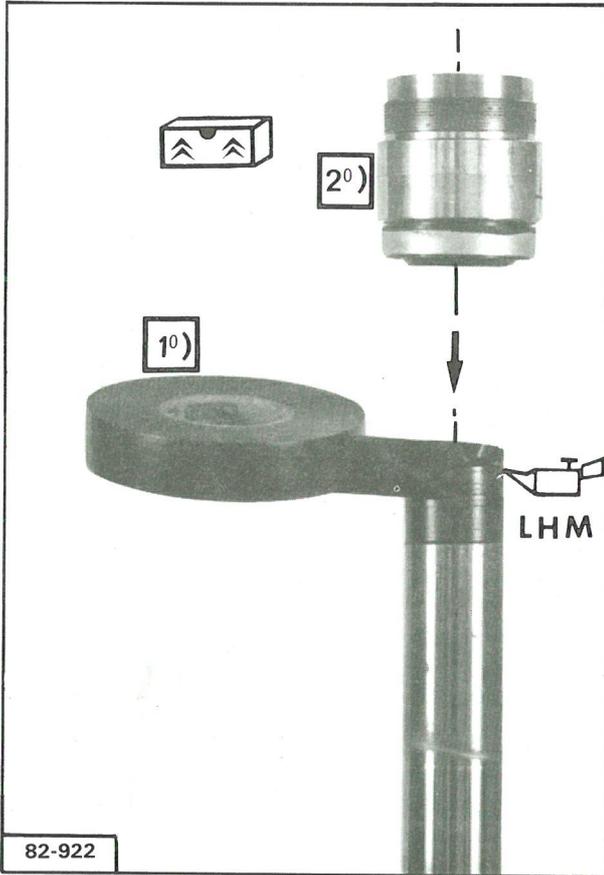


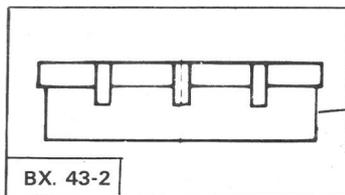
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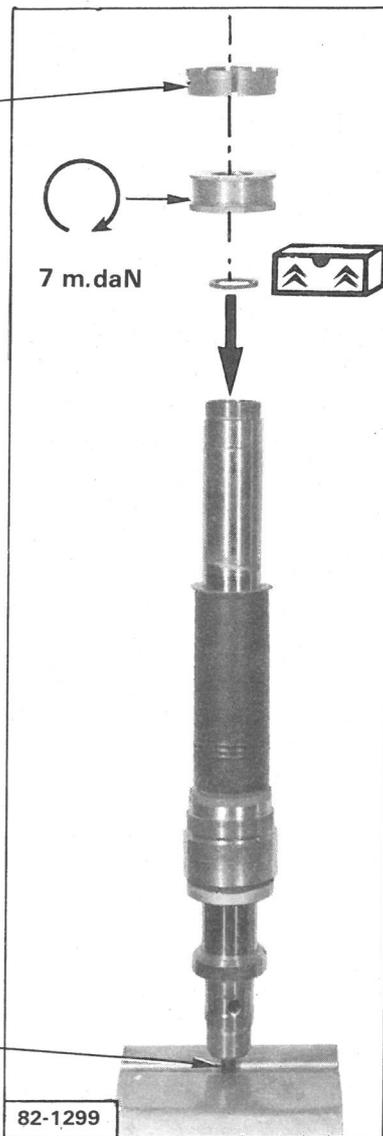
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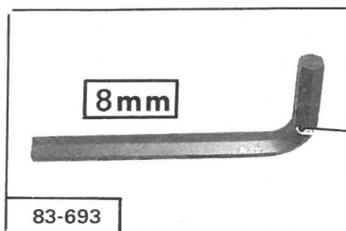


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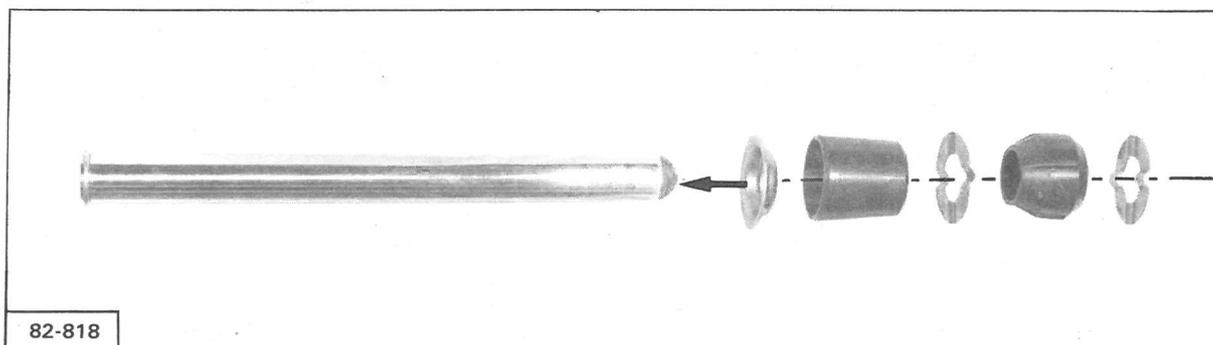
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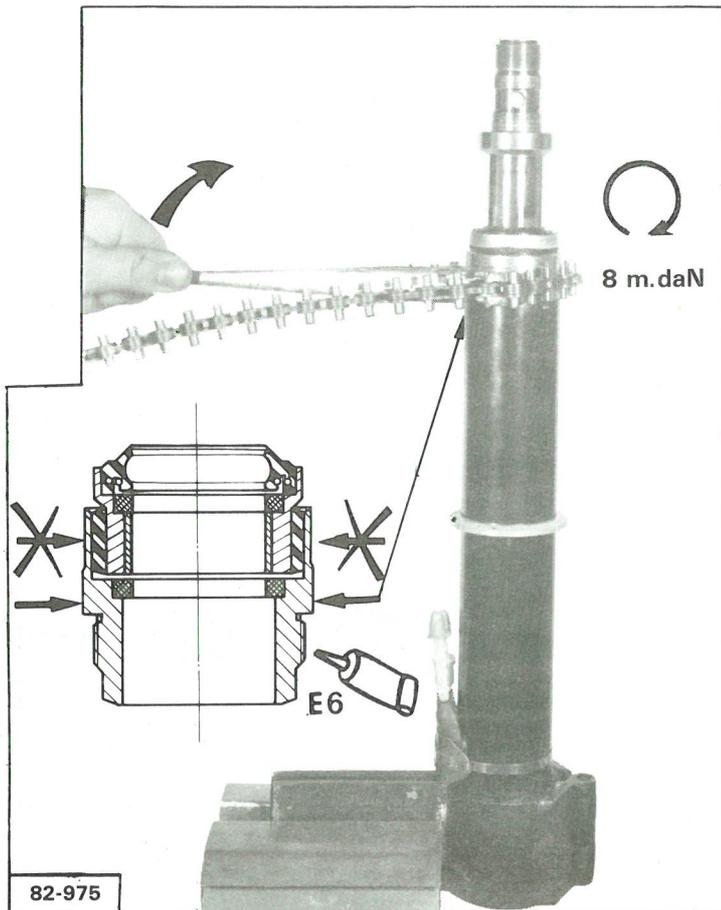
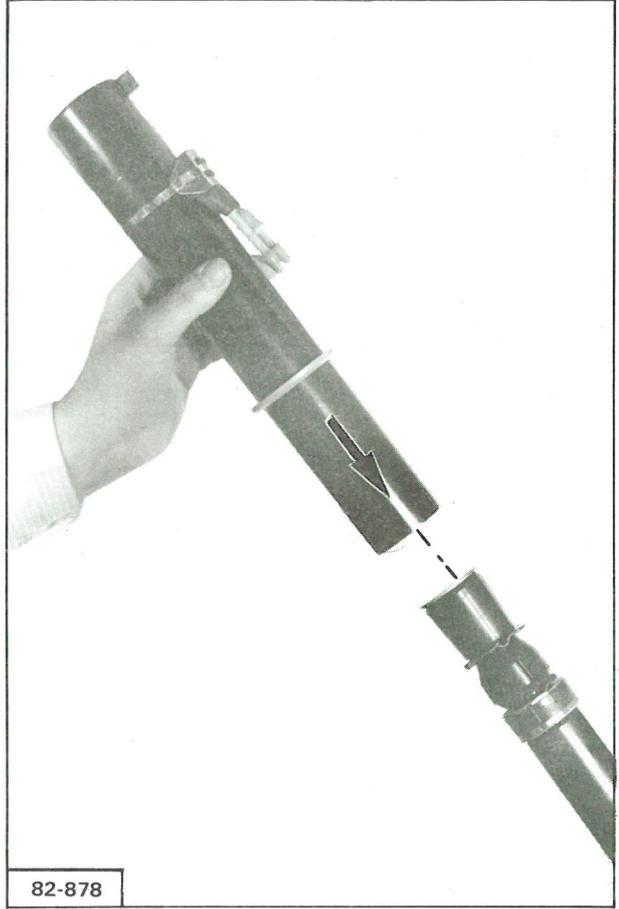
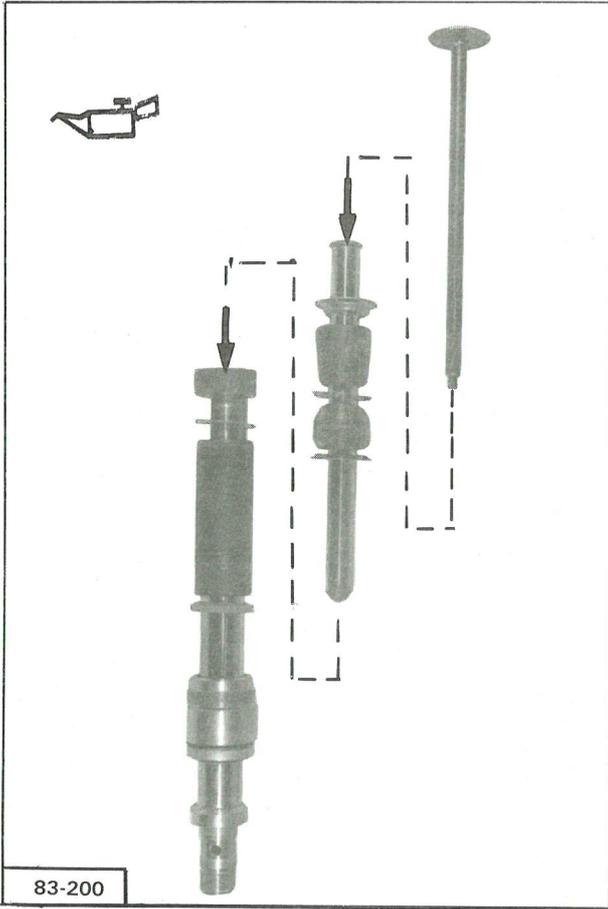


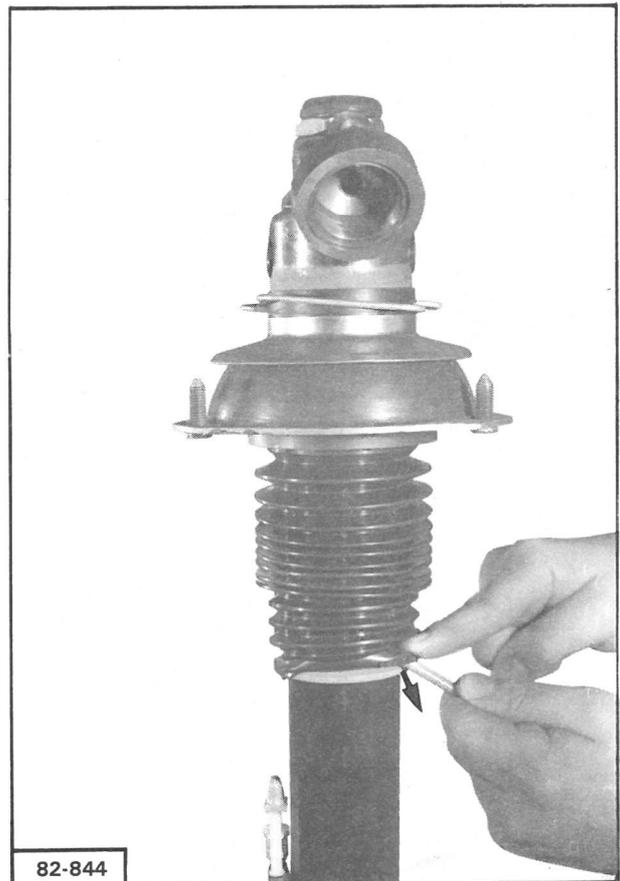
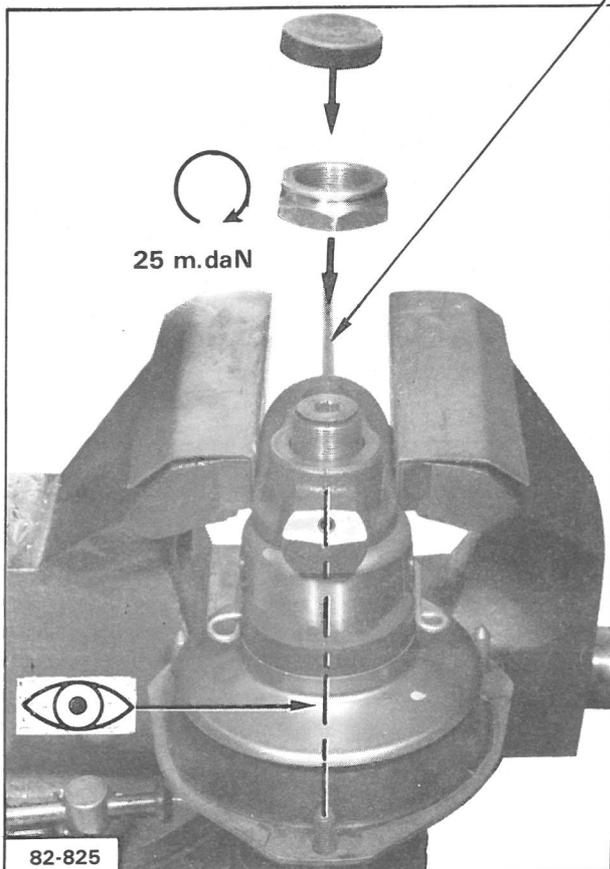
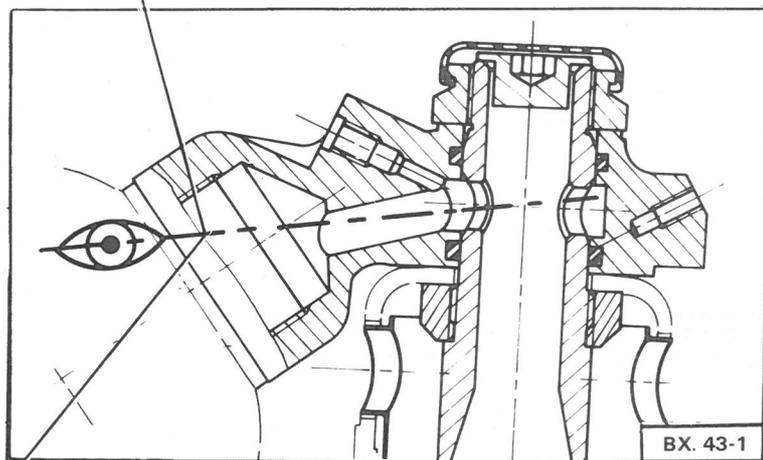
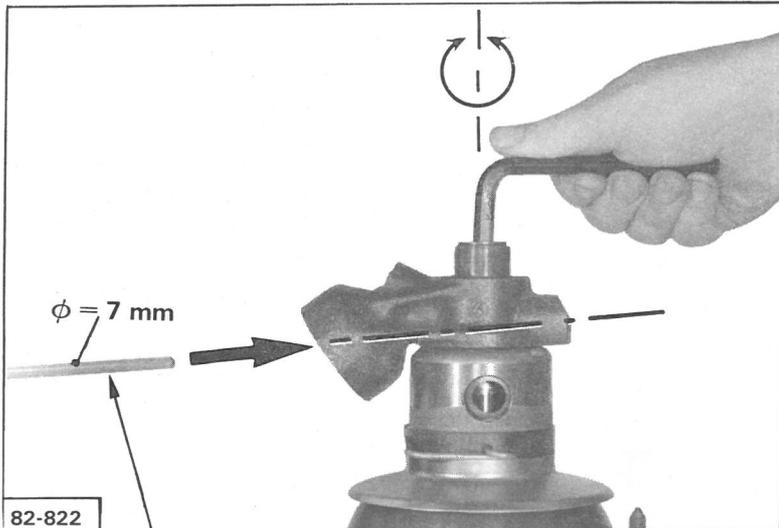
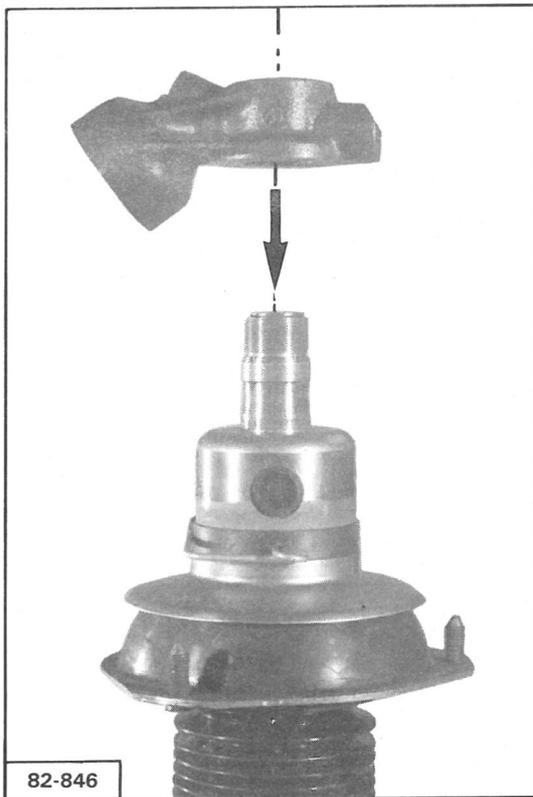
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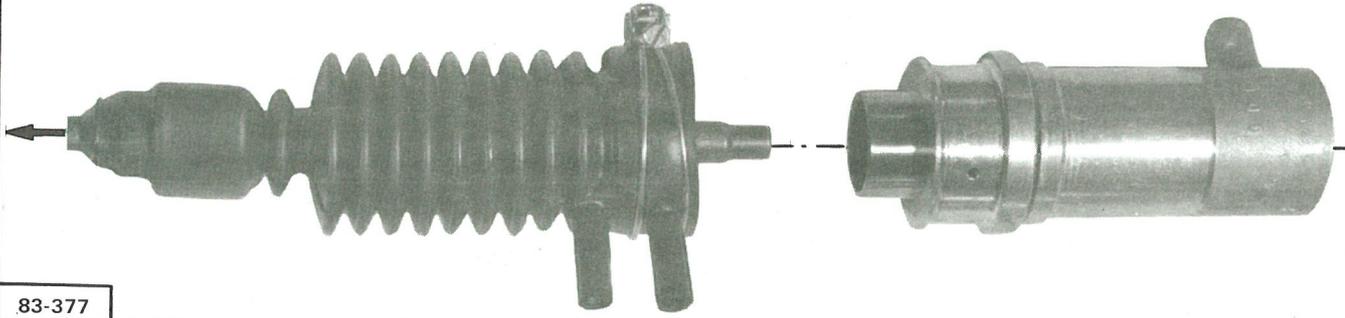
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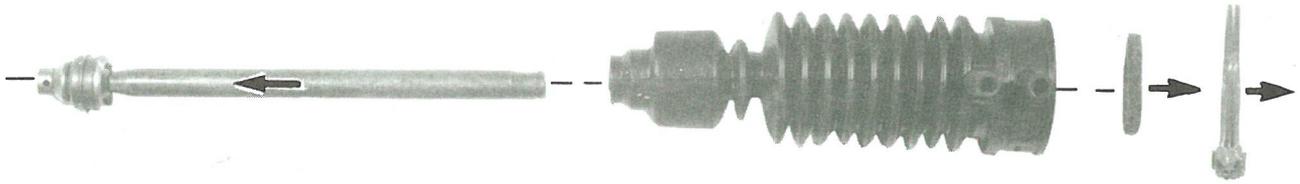
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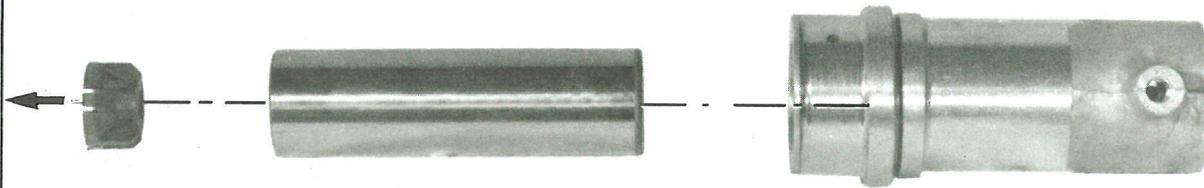




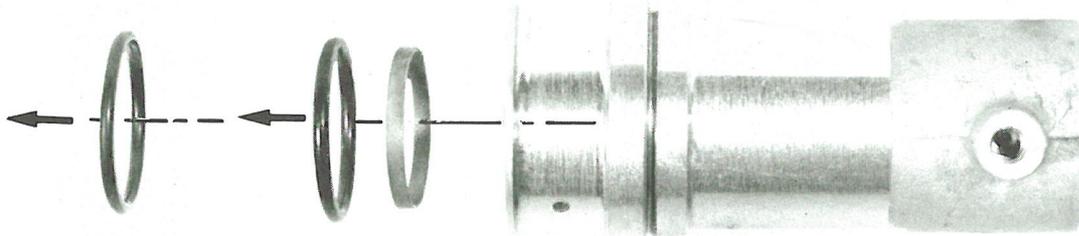
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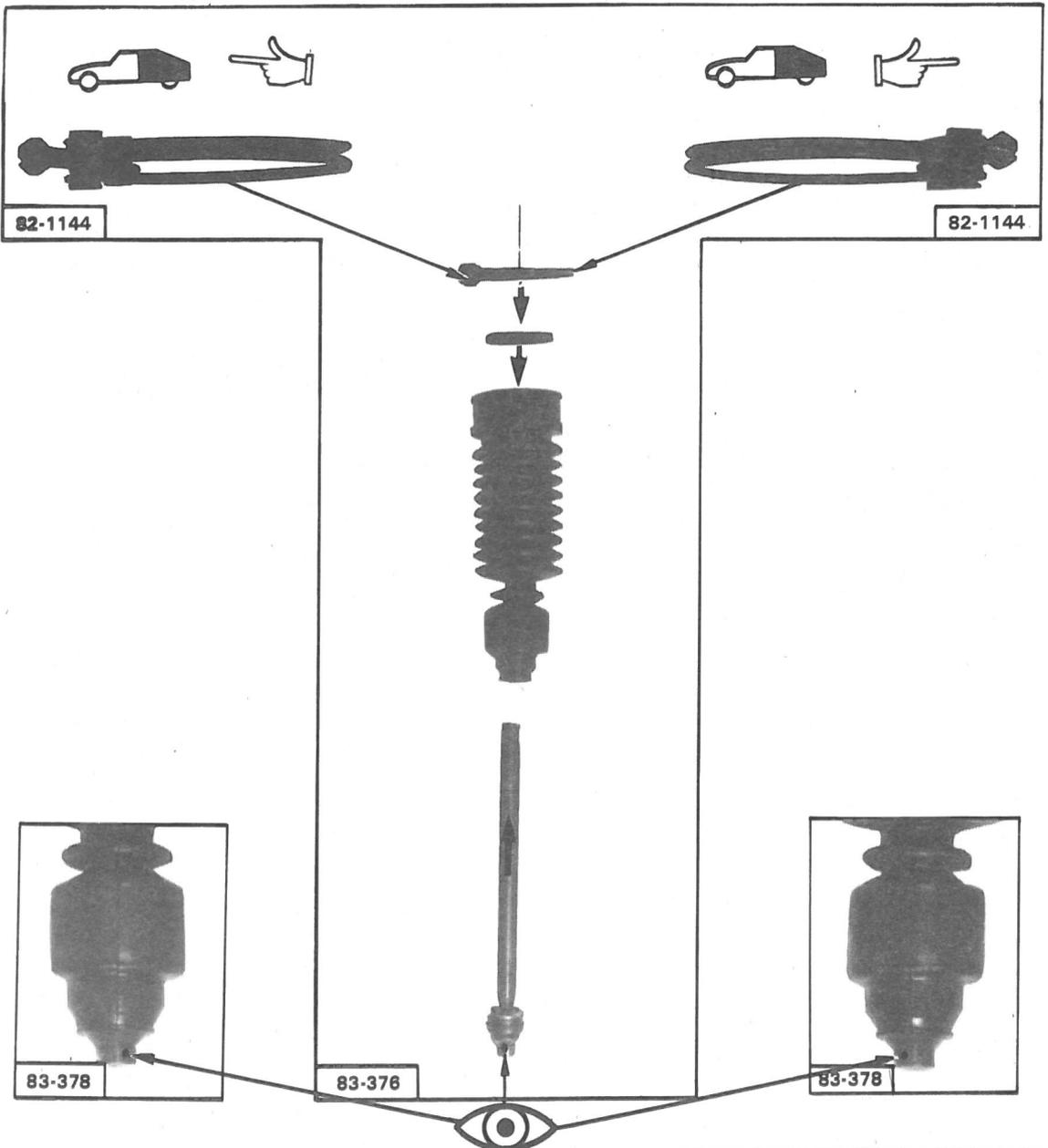
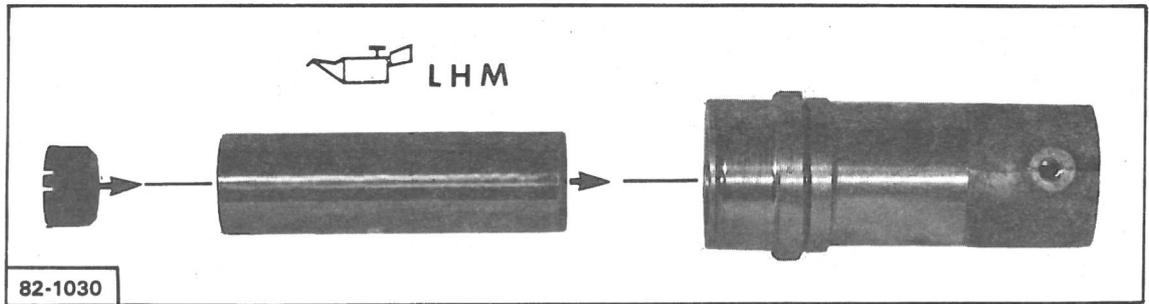
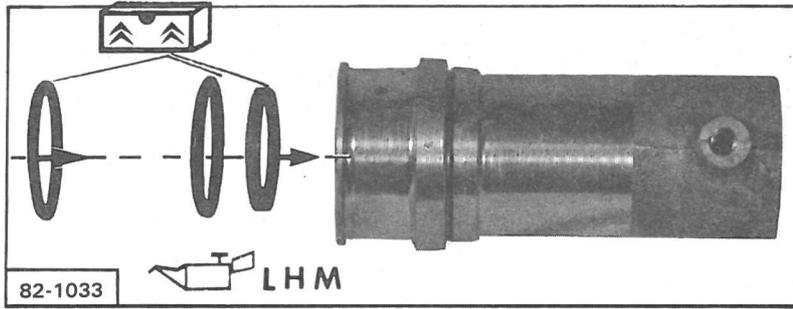
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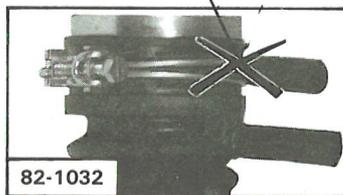


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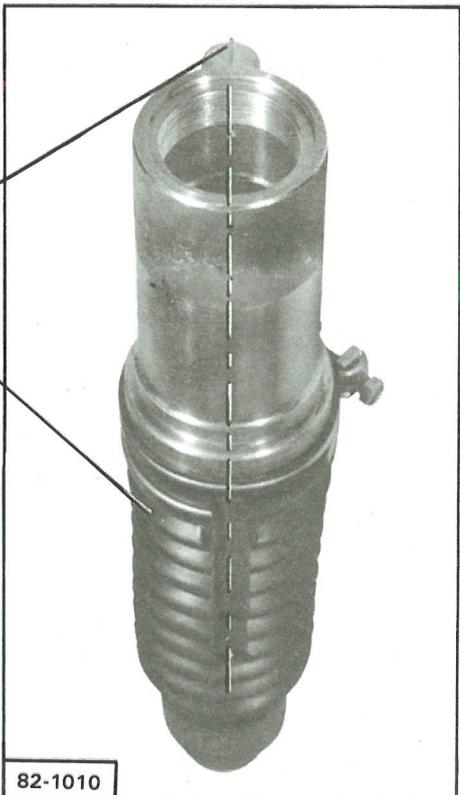
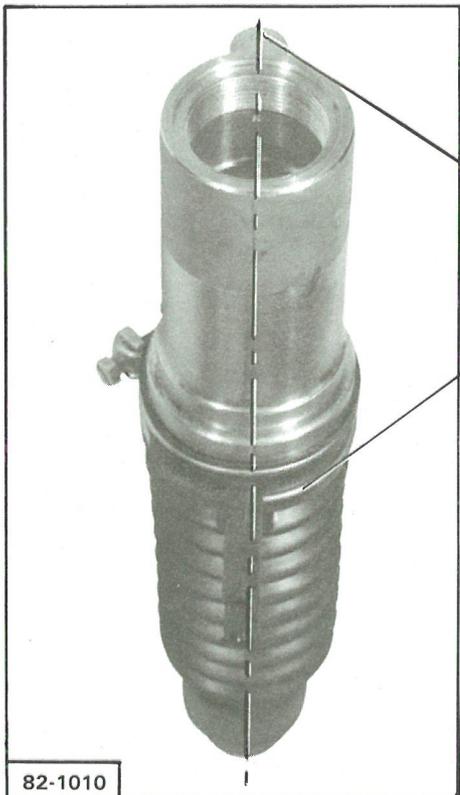




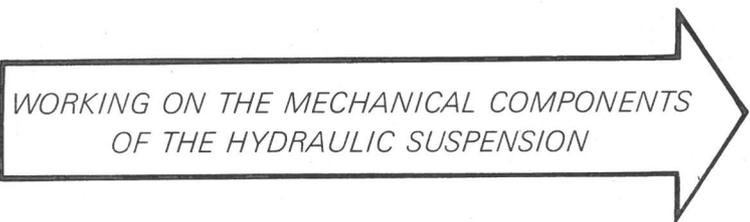
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*WORKING ON THE MECHANICAL COMPONENTS
OF THE HYDRAULIC SUSPENSION*



I. REMOVING AND FITTING AN ANTI-ROLL BAR.

REMOVAL.

Chock the front of the vehicle, wheels hanging free.
Remove the wheels.
Loosen the pressure regulator release screw.
Uncouple the anti-roll bar link-rods (1), **Fig. I.**

Set the height manual control to the « low » position and fix the swivels as high as possible, **Fig. II.** Then, set the height manual control to the « normal running » position.
Loosen collar (6) of the automatic control on the anti-roll bar and uncouple it from the height corrector, **Fig. III.**

BX 16, Fig. III

Uncouple the gear control link-rods, orientate relay (3) so as to uncouple ball-joint (5) and to fit relay (4) behind the anti-roll bar.

Push protector (7) back and loosen collar (8) on the L.H. side of the anti-roll bar.

BX 14, Fig. V

Remove the securing screws (11) at the centre of the subframe.

Loosen the subframe front securing screws (12) and rear securing screws (10) by 10 mm approximately.

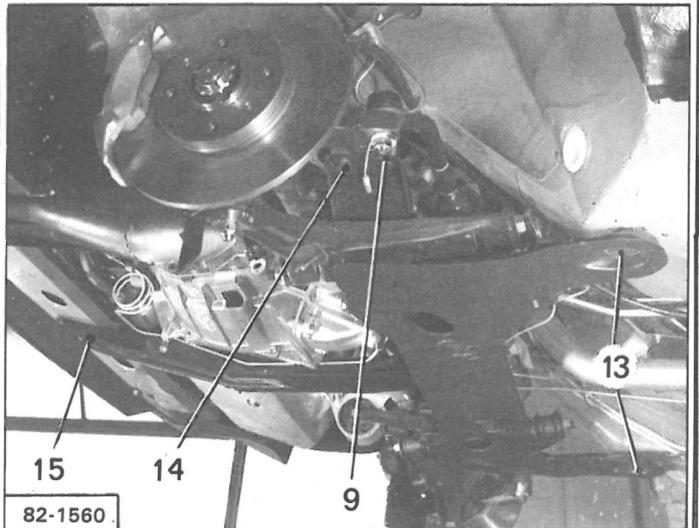
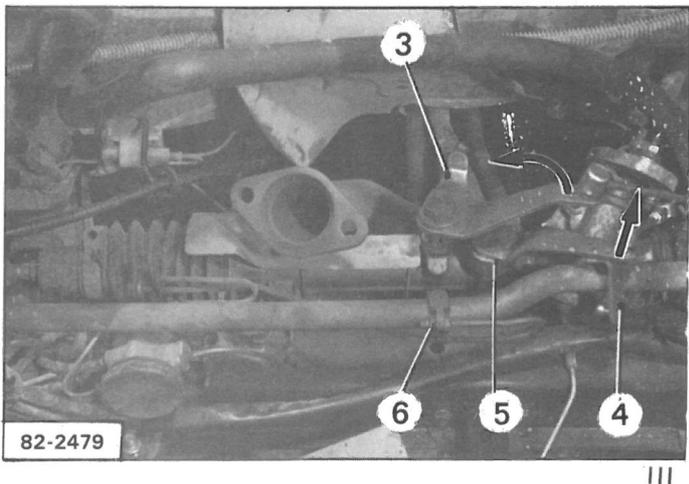
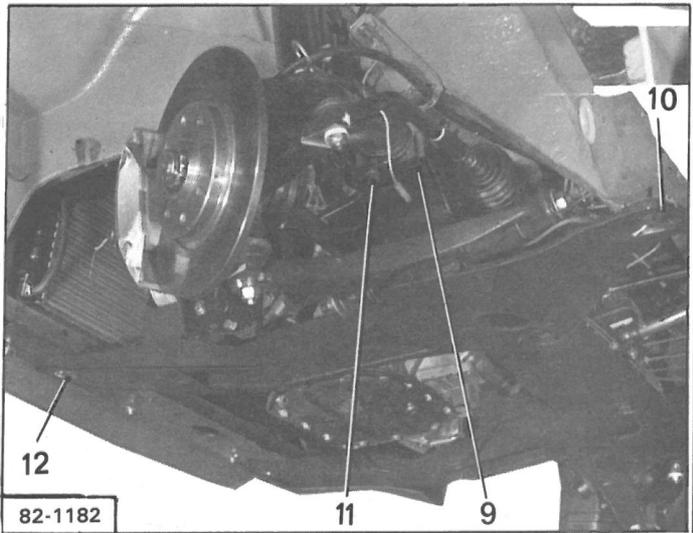
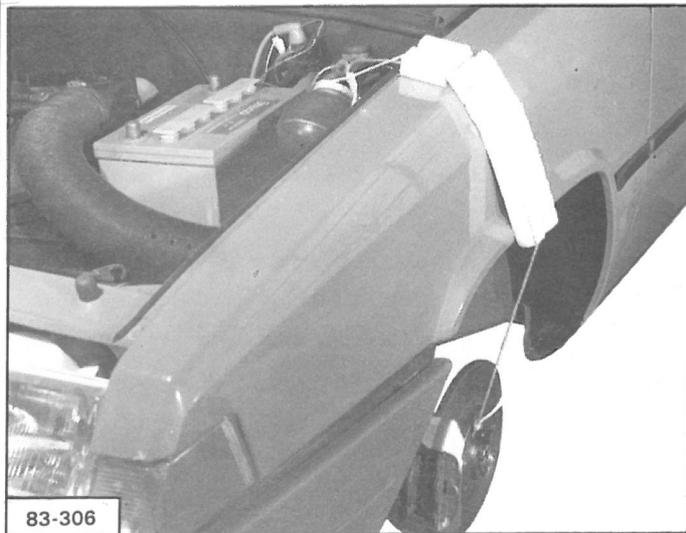
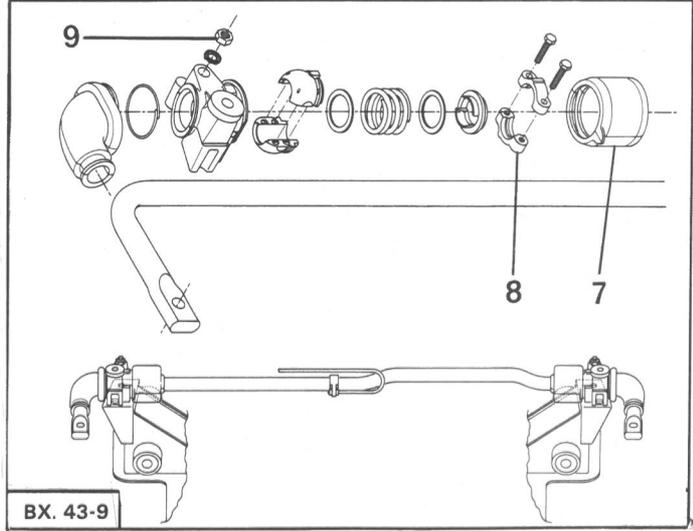
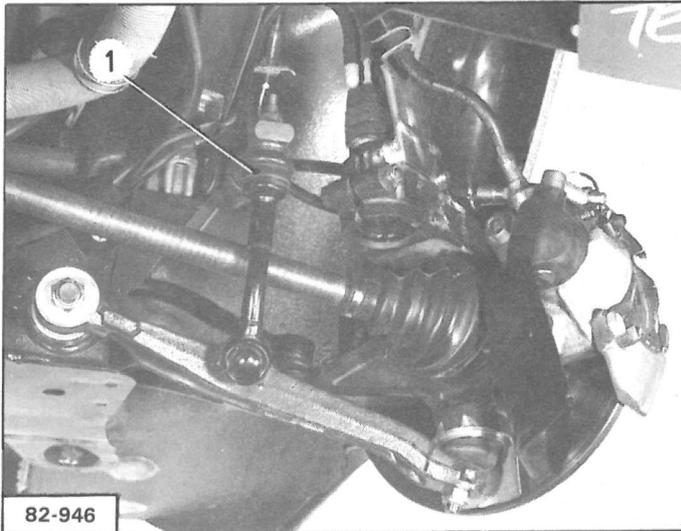
BX 16, Fig. VI

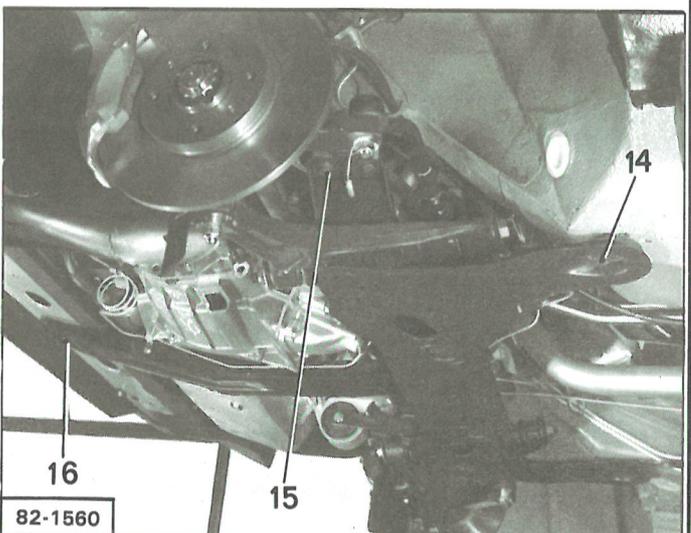
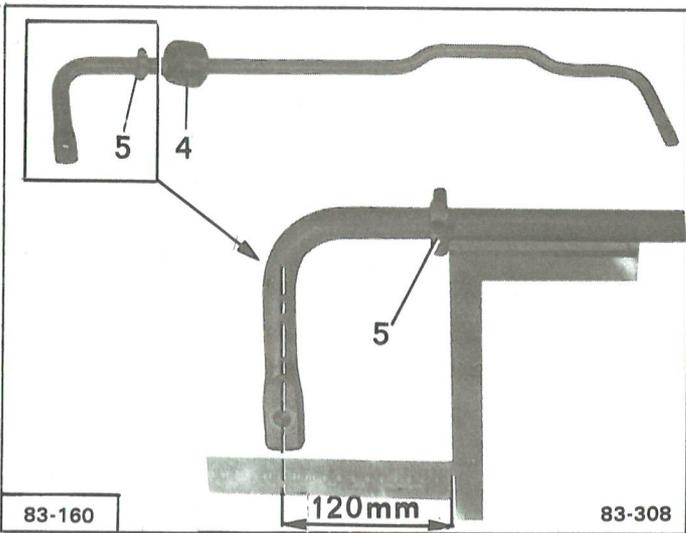
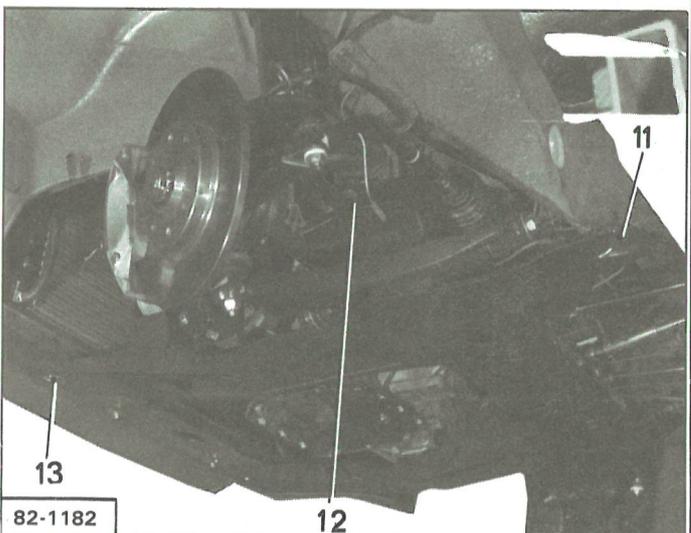
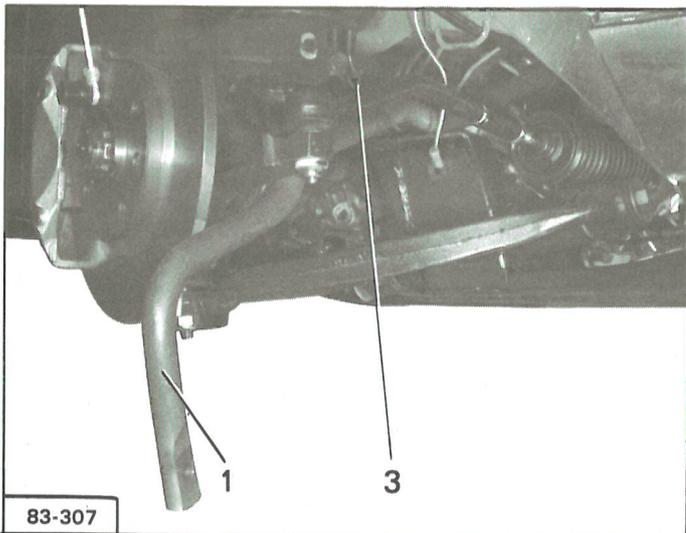
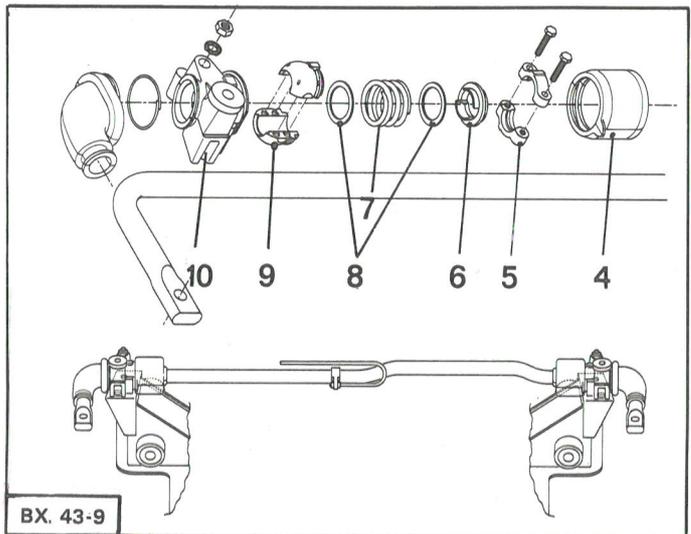
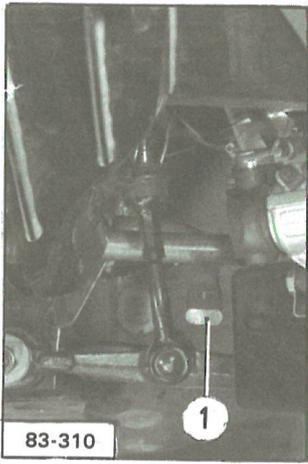
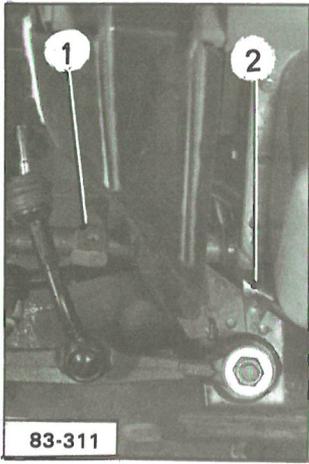
Remove the securing screws (14) at the centre of the subframe.

Loosen the subframe front securing screw (15) and rear securing screws (13) by 10 mm approximately.

Remove screw (9) securing the bearings on the subframe and remove the parts of the anti-roll bar.

Only collar (8) and protector (7) remain in position on the R.H. side of the anti-roll bar.





Loosen flange (2) on the hydraulic circuit return pipes, **Fig. I.**

Uncouple the return pipes (3) of the L.H. suspension cylinder, **Fig. III.**

Remove the anti-roll bar (1), Fig. I, II and III.

Move the anti-roll bar towards the right.

Engage the anti-roll bar under the L.H. drive-shaft, **Fig. II** and move it towards the left. Release the R.H. side of the anti-roll bar towards the inner part of the body.

Engage the L.H. side of the anti-roll bar between the steering arm and the L.H. lower arm.

Remove the anti-roll bar.

FITTING.

Since the anti-roll bar is stripped, fit protector (4) and collar (5) in a straight position.

Fit the inner side of collar (5) at **120 mm** from the axis of the orifice and tighten the screws to **1.2 m.daN.**

Offer up the anti-roll bar between the steering arm and the L.H. lower arm, engage the R.H. side of the anti-roll bar above the R.H. drive-shaft and fit the L.H. side above the L.H. drive-shaft.

Fit the parts on the anti-roll bar, **Fig. V** (*previously greased*).

On the R.H. side : thrust cup (6); a washer (8) on each side of spring (7), ball-joint (9) and bearing (10).

On the L.H. side : protector (4), collar (5), thrust cup (6), a washer (8) on each side of spring (7), ball-joint (9) and bearing (10).

Tighten the bearings (10) on the subframe.

Tightening torque : 2.7 m.daN.

BX 14, Fig. VI :

Fit securing screws (12) at the centre of the subframe and tighten it.

Tightening torque : front securing screw (13) and centre securing screw (12) : 5.7 m.daN.

Rear securing screw : 5.7 m.daN.

BX 16, Fig. VII

Fit securing screws (15) at the centre of the subframe and tighten it.

Tightening torque : front securing screw (16) and centre securing screw (15) : 5.7 m.daN.

Rear securing screw (14) : 9.5 m.daN.

Adjust the anti-roll bar, Fig. I and II

Fit tool **7102-T Fig. II**, by resting behind collar (2), tighten nut (3) until the coils of spring (1) are touching, loosen nut (3) by one turn and tighten collar (2).

Fill up the bearings of the anti-roll bar with TOTAL MULTIS MS (30 grams approximately), fit protectors (6) and (4), fit circlips(5) on the protectors at « a » and collars LIGAREX at « b ».

Couple the link-rods to the anti-roll bar.
Tightening torque : 4.5 m.daN.

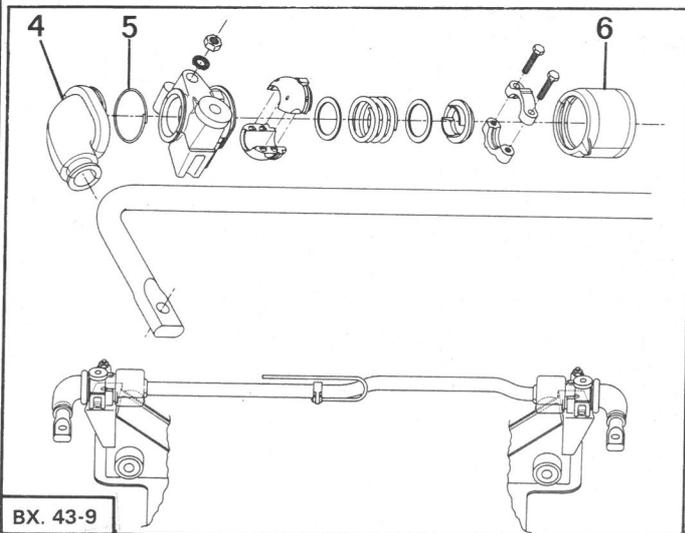
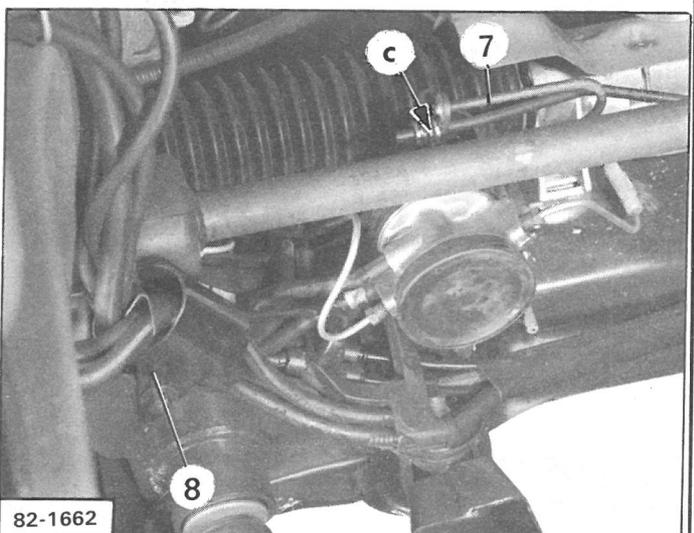
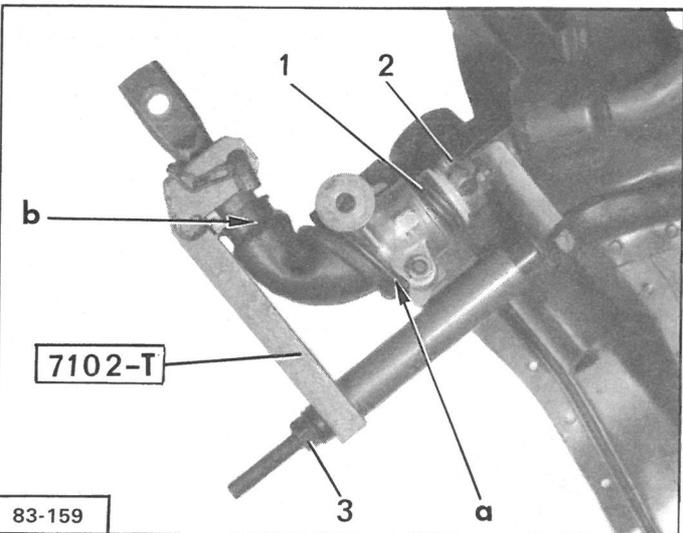
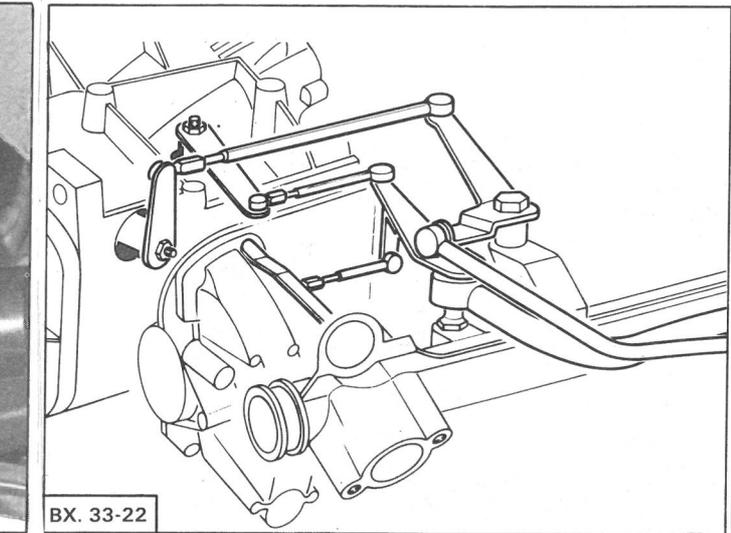
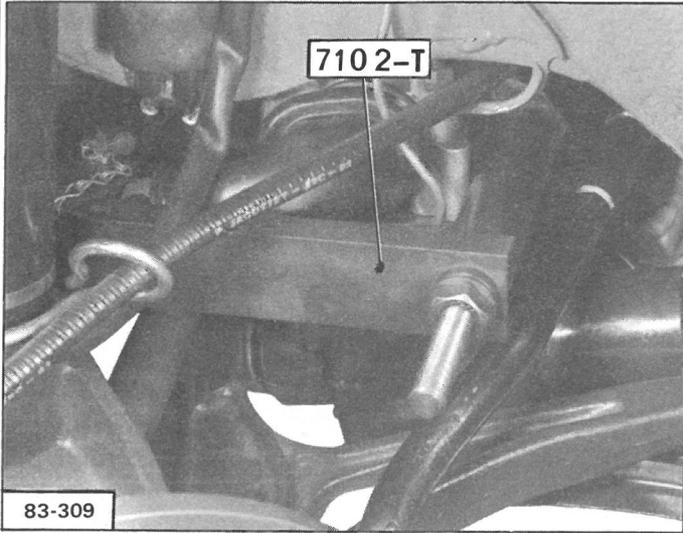
Couple the link-rods of the gear change control, **Fig. IV.**

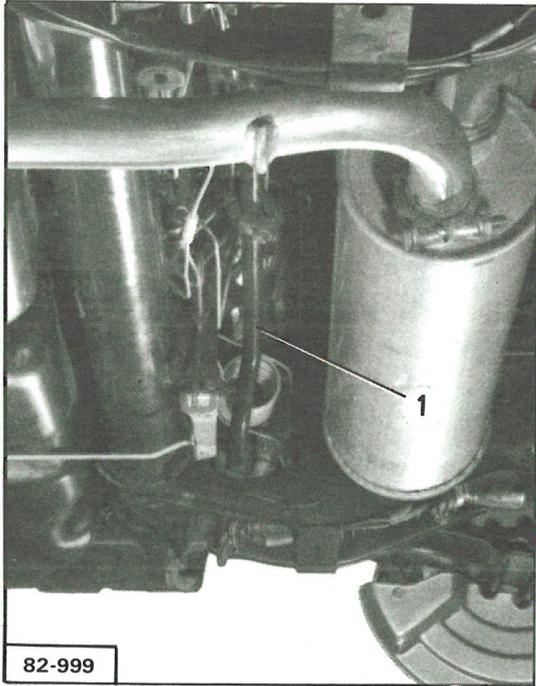
Set height automatic control (7) in position (*the manual control being in the « normal running » position*), the free-play at the control articulating point « c » should be : 1.5 to 2 mm. Tighten collar (2).

Fasten flange (8) of the L.H. suspension cylinder return pipes (*do not grease the pipes*).

Lower the vehicle to the ground.

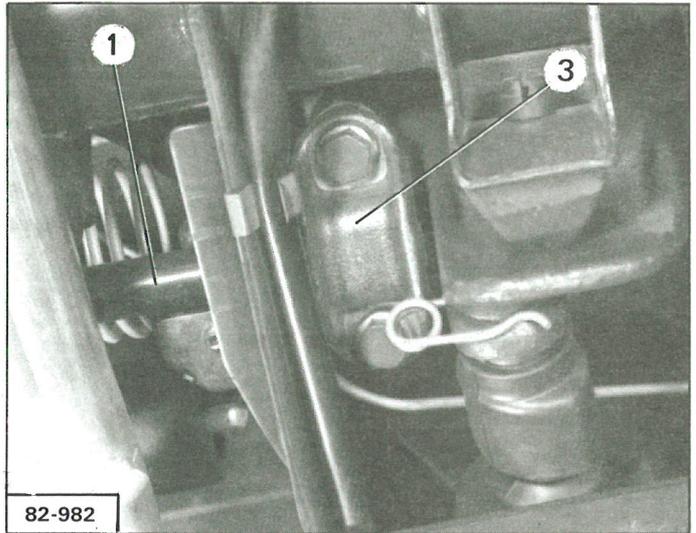
Adjust the vehicle front heights : **160 ± 8 mm** - Check the rear heights : **214 ± 8 mm** - Adjust, if necessary (*see Op. XB. 430-00*).





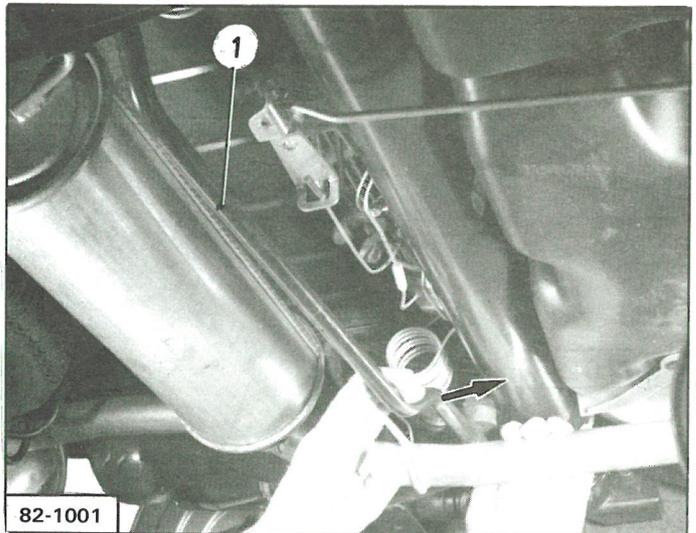
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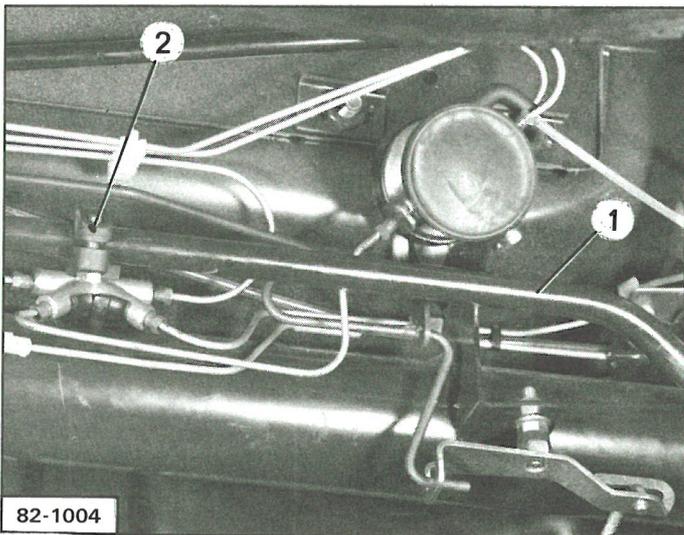
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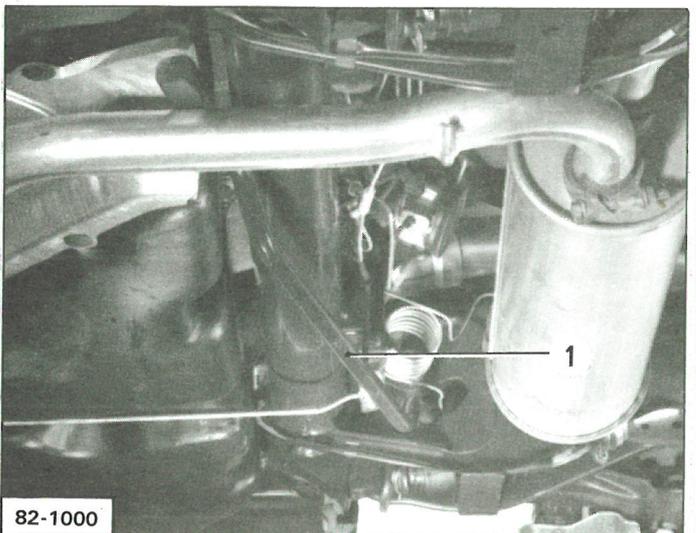
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IV



82-1004

II



82-1000

V

II .REMOVING AND FITTING A REAR ANTI-ROLL BAR.

REMOVAL.

Chock the rear of the vehicle, wheels hanging free.
Set the height manual control to the « normal running » position.

Uncouple collar (2) from the height corrector automatic control.

Remove the two flanges (3) and anti-roll bar (1) thrust plates.

Remove the anti-roll bar, Fig. IV and V.

Engage the anti-roll bar towards the R.H. side, slide the L.H. side between the exhaust and the body, then remove the bar.

FITTING.

The anti-roll bar is symmetrical :

Offer up the R.H. extremity of the anti-roll bar, **Fig. V**, engage the L.H. extremity between the exhaust and the body, **Fig. IV** and fit it.

Position the thrust plate between the arm and the anti-roll bar, fit flange (3), **Fig. II**.

Tightening torque : 6.5 m.daN.

Couple the height corrector automatic control (*the manual control being in the « normal running » position*).
The free-play at the control articulation point should be : 1.5 to 2 mm.

Tighten collar (2).

Lower the vehicle to the ground.

Adjust the rear height of the vehicle : **214 ± 8 mm.**

Check the front heights : **160 ± 8 mm.**

Adjust, if necessary.
See Op. XB. 430-00.



WHEELS AND TYRES.

Standard fitting	Wheel rims	Pressed steel	Alloy	Tubeless tyres	Pressures in psi		
					Front	Rear	Spare
BX 14 All Types BX 16 All Types	4.50 B 14 FH 4.30 120 TR 365 FH 4.30	X X		145 SR 14 MX or XZX 170/65 R 365 TRX AS	27.5 27.5	29 30.5	32 33.5
Optional fitting							
BX 14 All Types BX 14 RE BX 16 All Types	120 TR 365 FH 4.30 120 TR 365 FH 4.30 120 TR 365 FH 4.30	X	X X	170/65 R 365 TRX AS 170/65 R 365 TRX AS 170/65 R 365 TRX AS	26 26 27.5	29 29 30.5	32 32 33.5
Authorized alternative							
BX 14 All Types BX 14 RE BX 16 All Types	4.50 B 14 FH 4.30 120 TR 365 FH 4.30 120 TR 365 FH 4.30	X	X X	145 R 14 X (M + S) 170/65 R 365 TRX (M + S) 170/65 R 365 TRX (M + S)	27.5 26 27.5	29 29 30.5	32 32 33.5

It is strictly forbidden to fit inner tubes on light alloy wheels equipped with « TUBELESS » tyres.

Tyre pressures are indicated on a label located on the door opening front pillar (driver's side).

Tightening torque values for wheel nuts :

Pressed steel rim : **8 m.daN**
Light alloy rim : **9 m.daN**

When carrying out an operation which necessitates the removal of **light alloy** rims, **grease** the centring hole of the the wheel with « TOTAL MULTIS ».

Operation number	DESCRIPTION
XB. 440-00	Characteristics and special features of the steering
XB. 441-1	Working on the steering column
XB. 442-1	Removing and fitting a steering
XB. 442-3	Reconditioning a steering 

*CHARACTERISTICS AND SPECIAL FEATURES
OF THE STEERING*

CHARACTERISTICS

- Type of steering	Rack and pinion
- Front wheel alignment (<i>adjustment with two link rods, normal running position</i>)	0 to 3 mm toe-out
- Steering ratio	1/20
- Number of turns of the steering wheel lock to lock	3.76
- Turning circle { between walls	10.90 m
{ between kerbs	10.17 m
- Lock angle { outer wheel	33.7°
{ inner wheel	42°

SPECIAL FEATURES

- Number of teeth on pinion	7
- Number of teeth of rack	34
- Rack plunger play (at min. free-play point)	0.05 mm
- Plunger shim thickness: 0.10 - 0.12 - 0.15 - 0.18 - 0.20 - 0.30 - 0.40 - 0.50 - 0.60 - 0.70 - 0.80 mm	
- Link rod preset length "L"	355 mm (approx.)
<i>(Between the swivel ball-joint spindle and the thrust face of the ball-joint on the rack).</i>	

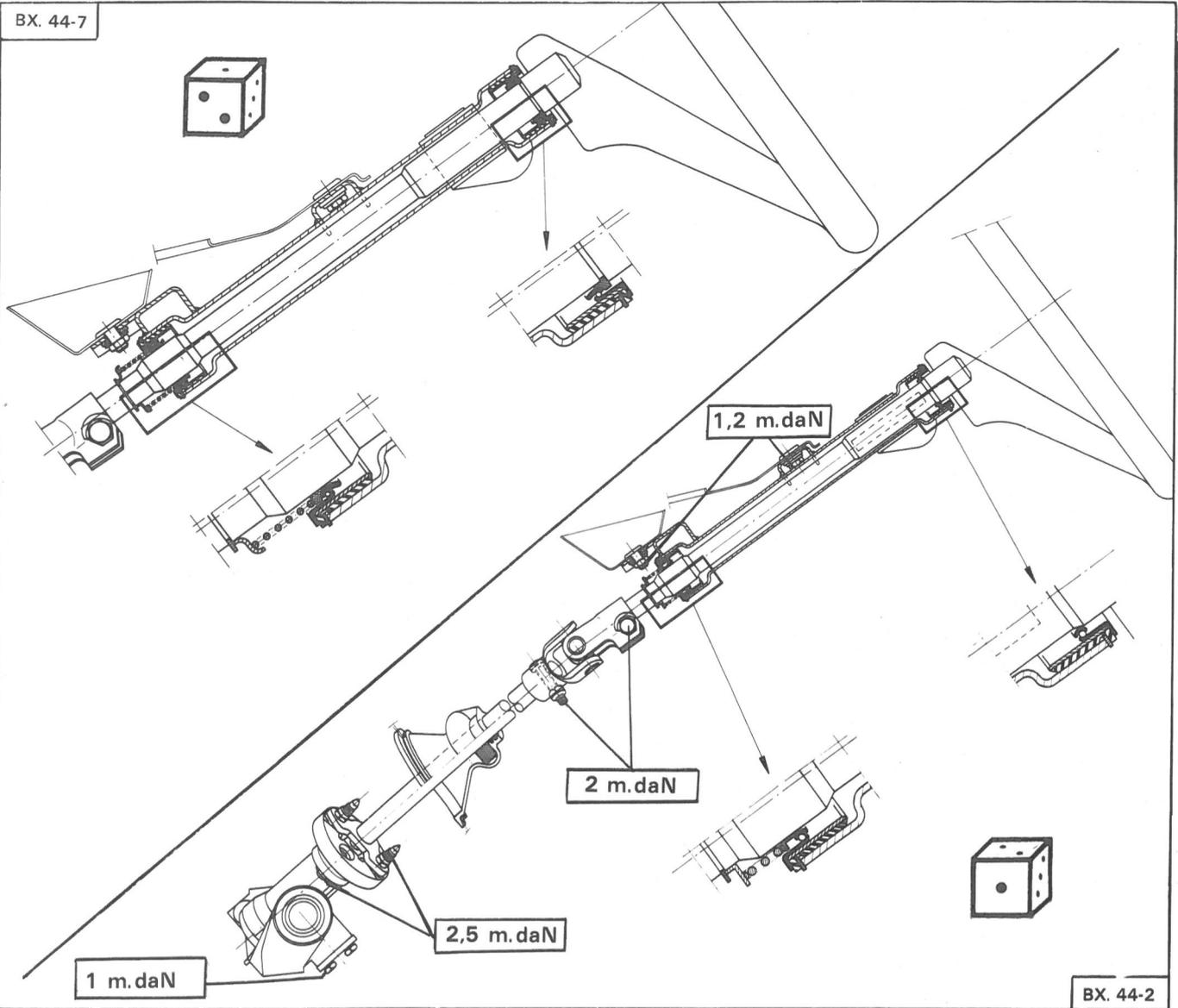
Fitting position of the steering with vehicle wheels in a "straight-line" position.

- Position of the spoke	VERTICAL (spoke pointing downwards)
- Position of the pinion flange	PARALLEL to the rack housing

Steering geometry :

- Shims between rack housing and axle (3 thicknesses)	0.5 - 1 - 2 mm
- Variation of the parallelism, per wheel , between "INTERMEDIATE" and "HIGH" position : between a toe-out of 0.5 mm and a toe-in of 1 mm	
Ex: A 1 mm supplementary shim entails a toe-out variation of 1 mm.	
- Total thickness of the shims	3 mm ± 3 mm

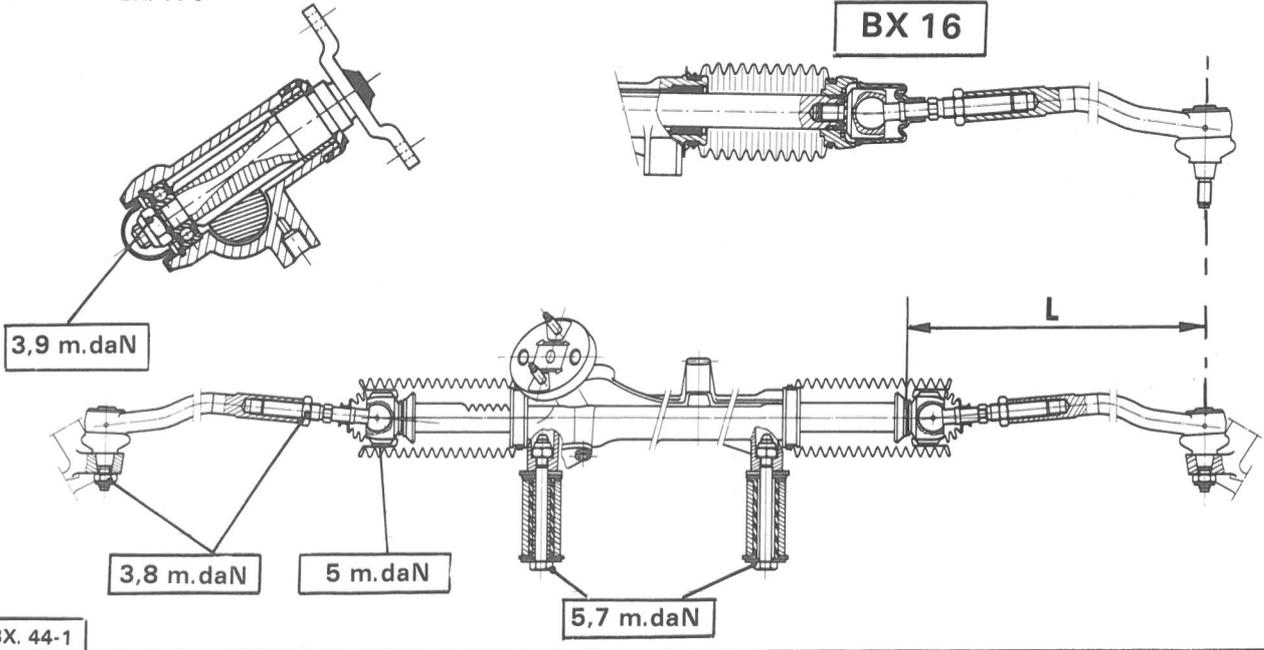
BX. 44-7



BX. 44-2

BX. 44-5

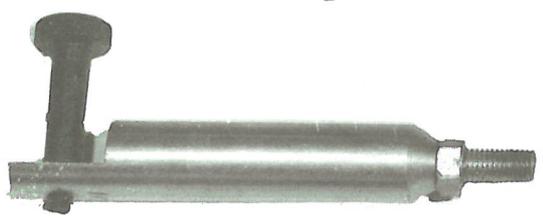
BX. 44-6



BX. 44-1

8 0705-T

D



76-416

8 0705-T

G



76-416

8 0707 - T



78-912

2437 - T



12-827

1892-T



13549

TOOLS RECOMMENDED

8.0705-T R.P. Ref. : OUT 38 0705-T

Kit for reconditioning a steering

D : Dial-gauge support**G** : Pad for removing and fitting the flexible coupling**8. 0707-T** R.P. Ref. : OUT 28 0707-T

Spanner for removing and fitting ball-joints on rack

2437-T

Dial-gauge fitted with a 60 mm extension piece approximately

1892-T R.P. Ref : OUT 20 1892-T

Ball-joint puller



WORKING ON A STEERING COLUMN

REMOVING AND FITTING THE STEERING WHEEL

REMOVAL

- **Remove** the L.H. inner finishing panel, **Fig. III.**

Remove upper screw (8) of the universal joint and loosen lower screw (7), **Fig. II.**

Slide the universal joint downwards to free the splines of the steering wheel shaft.

Remove circlip (5), keep the other parts, **Fig. II.**

- Remove the steering wheel.

- If necessary, remove ball bearings (1).

FITTING.

1st fitting : Fit Fig. I :

- the steering wheel in the support tube, fitted with its ball bearings (1),
- centring cup (2) (*chamfer towards the ball bearing*),
- spring (3),
- thrust cup (4),
- circlip (5).

2nd fitting : Fit Fig. I :

- a split ring (6) on the steering wheel,
- the steering wheel in the support tube, fitted with its ball bearings (1),
- the second split ring (6),
- spring (3),
- thrust cup (4),
- circlip (5).

Compress the spring and fit the circlip into its groove using a 17 mm box end spanner.

Facilitate the fitting of the circlip using pliers.

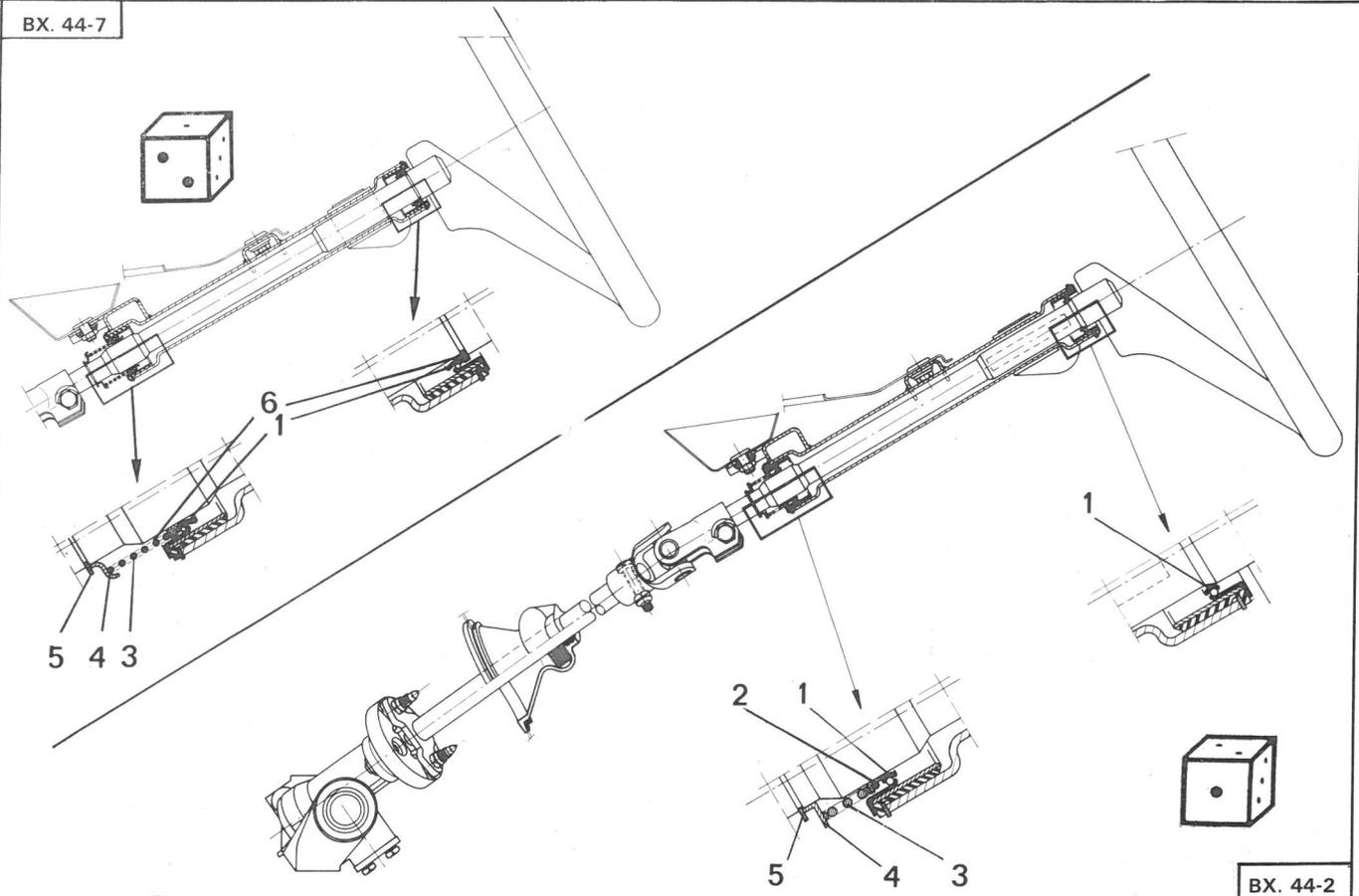
Balance the steering shafts when refitting them in the universal joint.

Tighten screws (7) and (8), **Fig. II.**

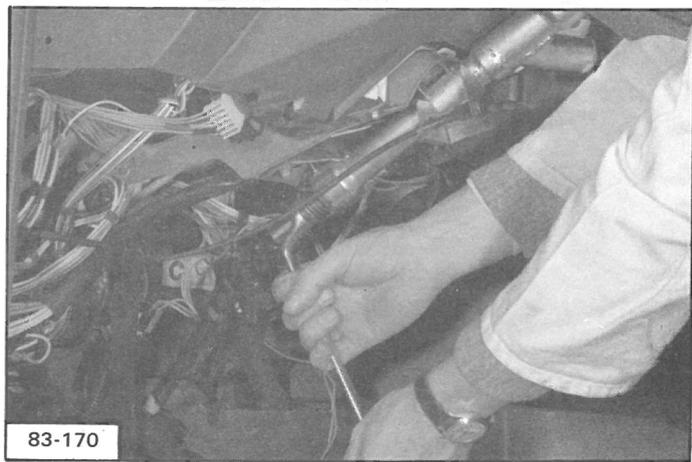
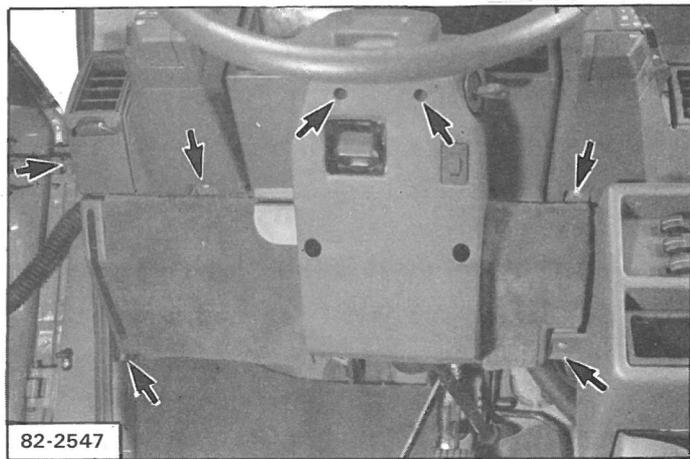
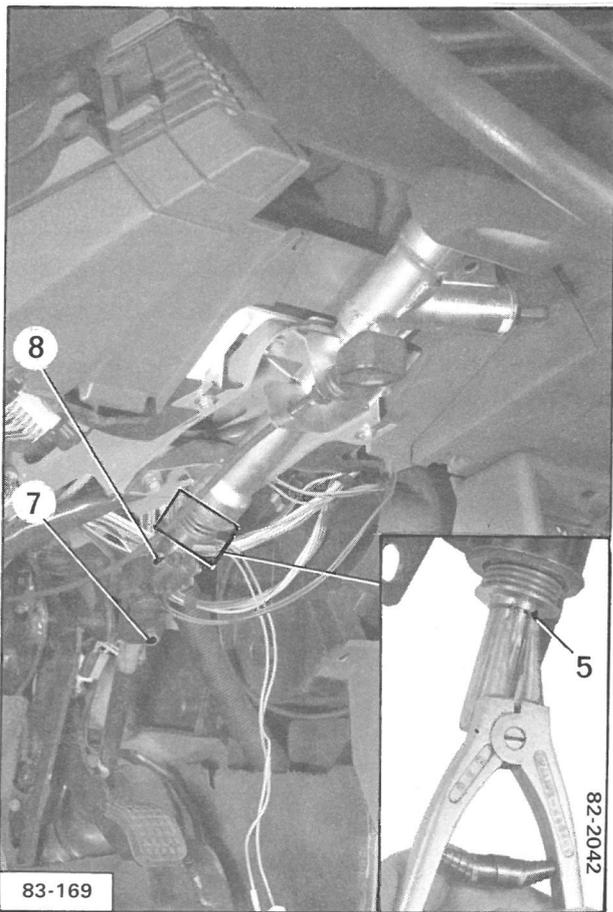
Wheel in the straight-line position :

- steering wheel spoke pointing downwards, **vertically**,
- pinion flange parallel to the rack housing.

BX. 44-7

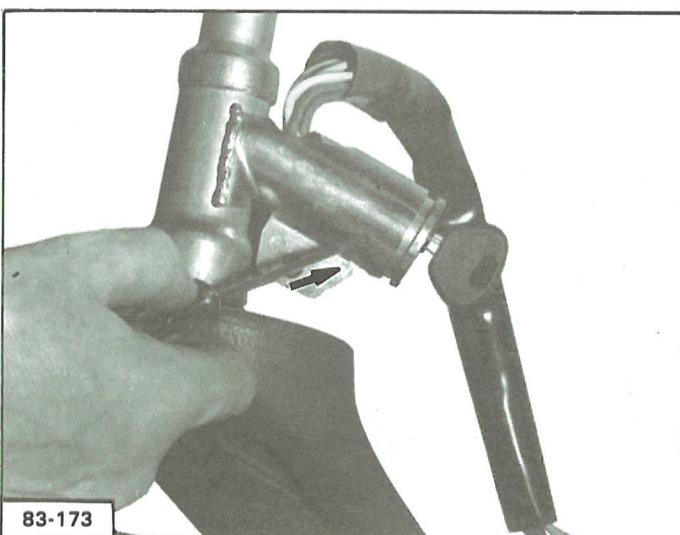
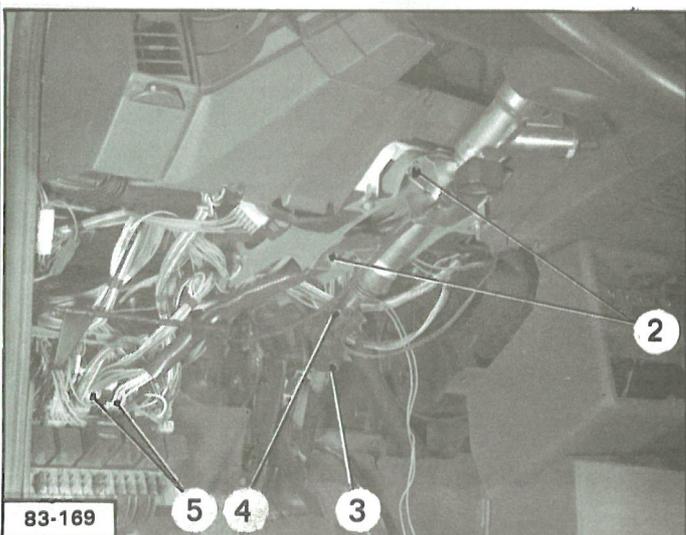
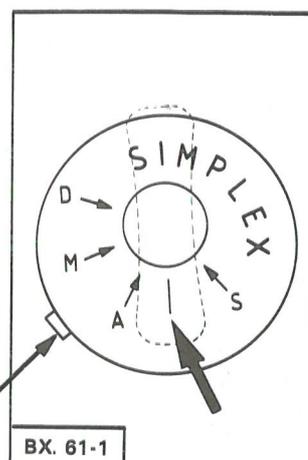
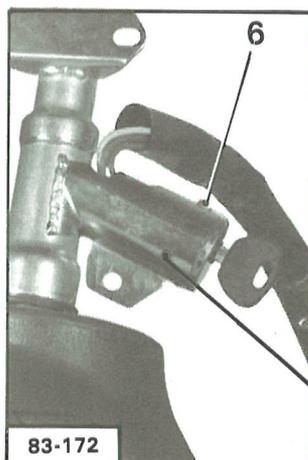
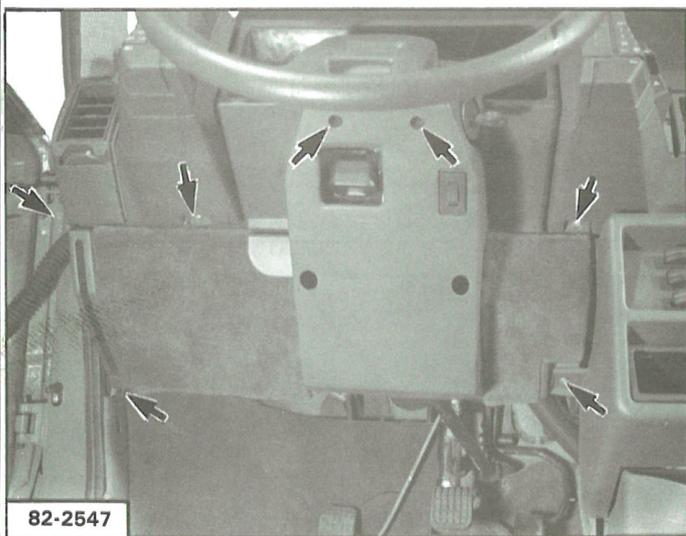
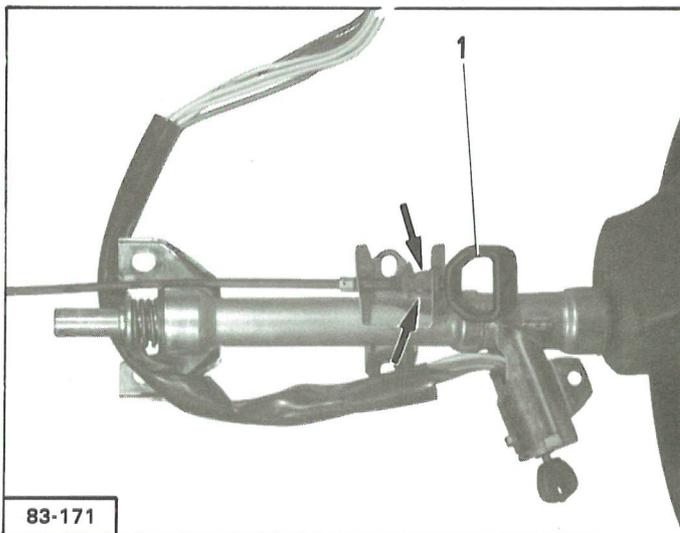
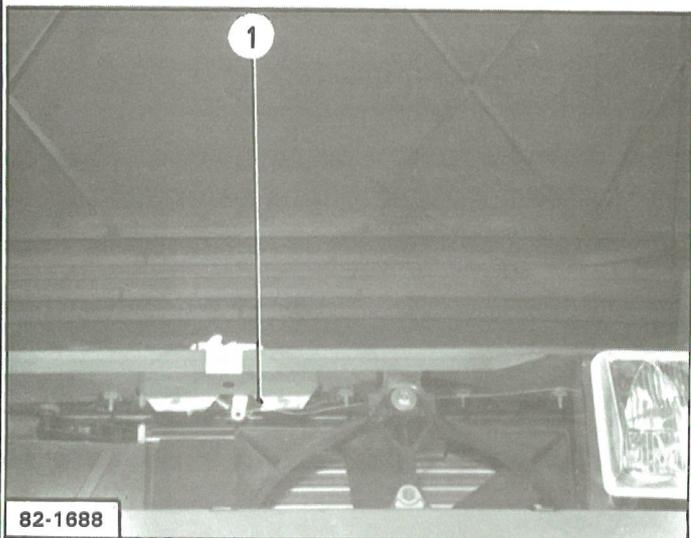


BX. 44-2



III

IV



REMOVAL

Remove the air deflector and uncouple cable (1) controlling the bonnet lock, **Fig. I.**

Keep the cable clamp and the sheath stop.

Set the wheels in the straight-line position.

Remove the L.H. lower finishing panel (7 screws) **Fig. II.**

Loosen the universal joint screws (3) and (4) and remove upper screw (4). Uncouple the universal joint from the steering wheel, **Fig. III.**

Disconnect the anti-theft wiring harness from inside the connection box.

Remove the four nuts (2) of the steering column and remove the unit.

Remove the cable controlling the bonnet opening, **Fig. IV.**

Squeeze the two tabs () and remove cable (1).

Remove the anti-theft : Fig. V, VI and VII

Remove screw (6). Set the key facing mark () between identification marks "A" and "S", press pin (7) to remove the anti-theft.

FITTING.

Fit the anti-theft and tighten screw (7).

Fit the cable controlling the bonnet opening.

Offer up the steering column, insert the bonnet opening cable through the scuttle panel, in the housing designed for this purpose, and in the guides located in the battery tray.

The anti-theft wiring harness should pass above the steering console.

Fit and tighten nuts (2) with lugged contact washers.
Nut tightening torque : 1.2 m.daN.

Couple the universal joint to the steering wheel :

- wheel in a straight-line position,
- spoke directed downwards, vertically.

Tightening torque of screws (3) and (4) : 2 m.daN.

Connect the anti-theft wiring harness (5) inside the connection box.

Fit the L.H. lower finishing panel, **Fig. II.**

Fit the sheath stop and couple the cable to the bonnet lock.

Fit the air deflector.

REMOVING AND FITTING A STEERING

REMOVAL

Chock the front of the vehicle, wheels hanging free and remove the wheels.

Remove the lower screw of the steering column universal joint (*on passenger compartment side*).

Uncouple the ball-joints of the swivel track-rods : **Fig. I.**

Use puller **1892-T.**

Correctly position the puller taking care not to damage the ball-joint protective rubber.

Loosen nut (1) and leave it in position in order to protect the ball-joint stem.

Uncouple the flexible coupling at screw (2) level (6 mm socket head screw), **Fig. II.**

Remove thermal shield (3) **Fig. III.**

Release the speedometer cable from support (6) by loosening screw (5) and turning the support towards the rack housing, **Fig. IV.**

Remove the two securing screws (4), **Fig. III.**

Keep the thrust washer and shims (7) adjusting the steering geometry, **Fig. V.**

Remove the steering by one of the vehicle side, put drive flange (8) in the steering shaft, **Fig. VI.**

FITTING.

Position the steering.

Fit the thrust washers and shims (7), **Fig. V.**

Fit screws (4) with their washers (*new NYLSTOP nut*).

Tightening torque : 5.7 m.daN.

Fit thermal screen (3), support (6) and the speedometer cable, **Fig. III and IV.**

Couple the track-rods to the swivel. Nut (1) (*new NYLSTOP nut*).

Tightening torque : 3.8 m.daN.

Couple the flexible coupling. Position the swivels in a «straight-line» position, the steering wheel spoke pointing downwards.

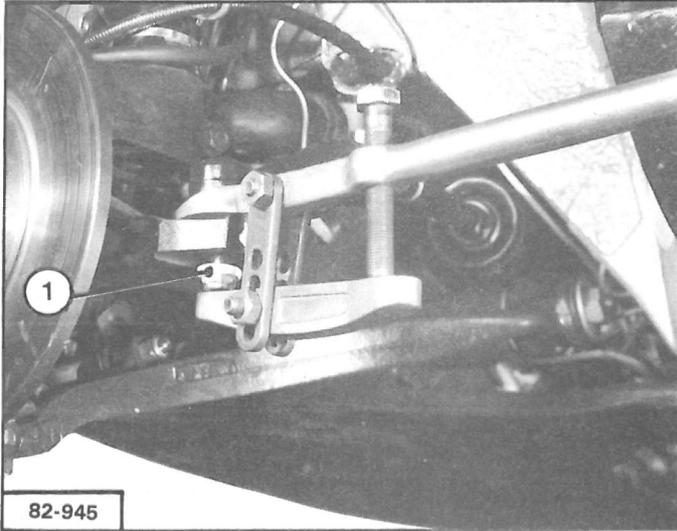
Screw (2) with *new NYLSTOP nut*.

Tightening torque : 2.5 m.daN.

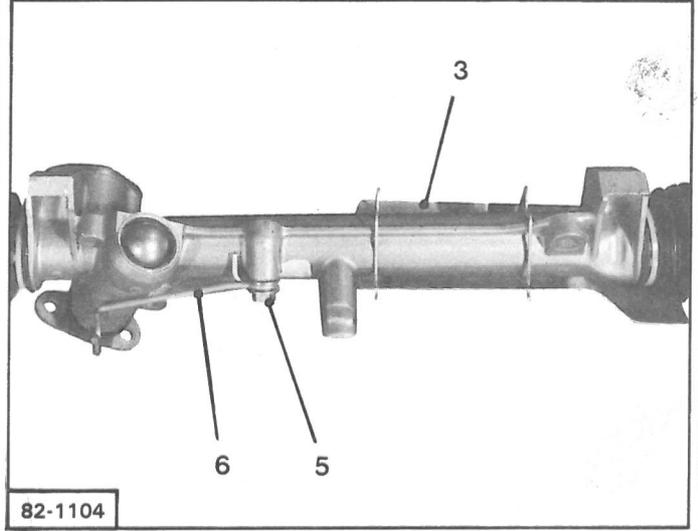
Fit the lower screw of the steering column universal joint.

Tightening torque : 1.4 m.daN

Fit the wheels.



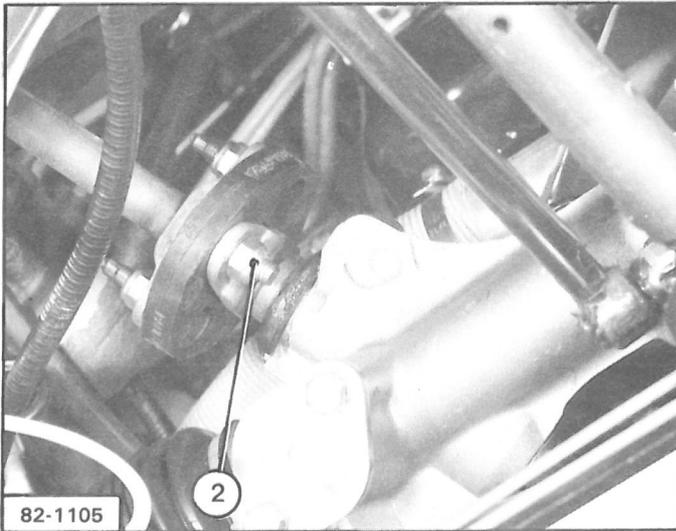
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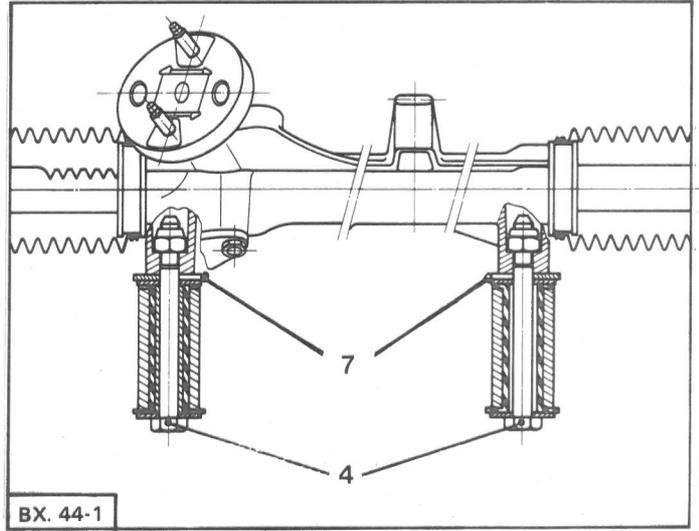
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IV



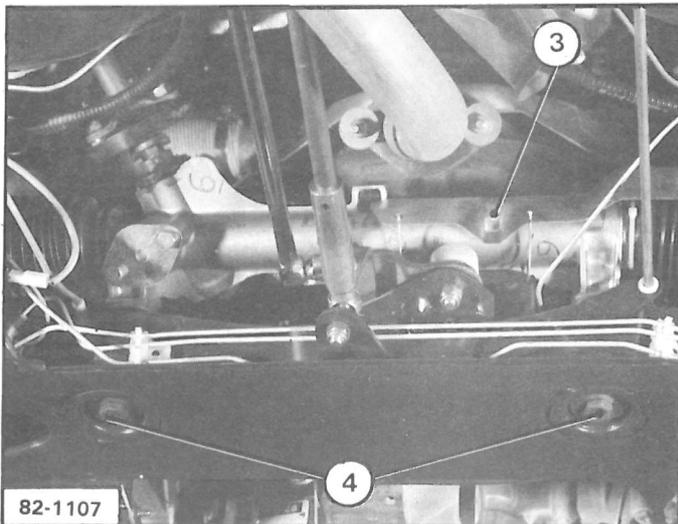
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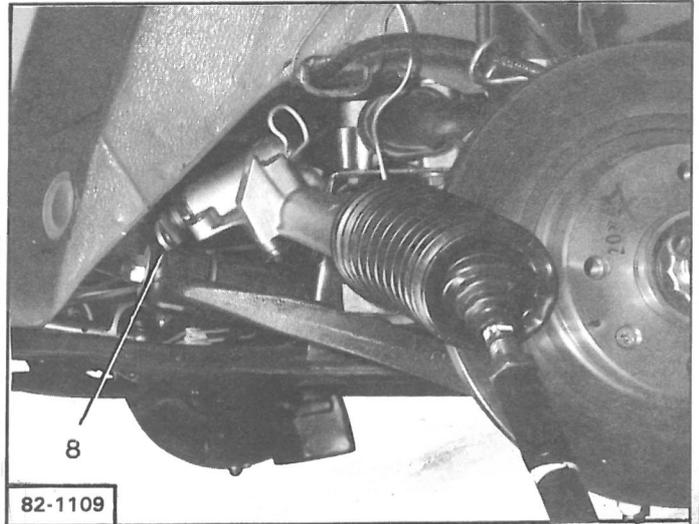
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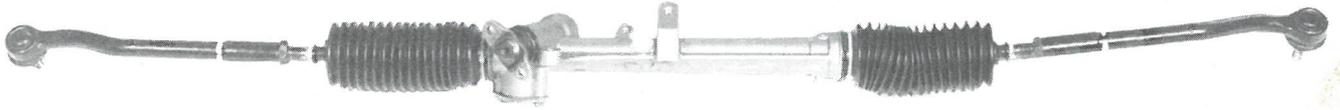
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III

VI



BX 14

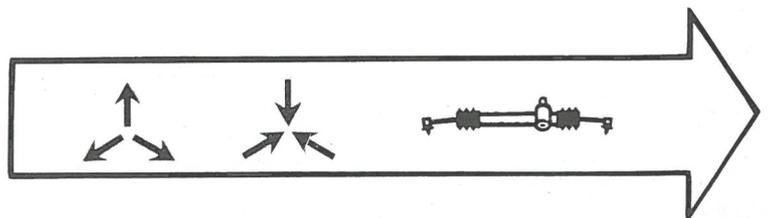


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XB
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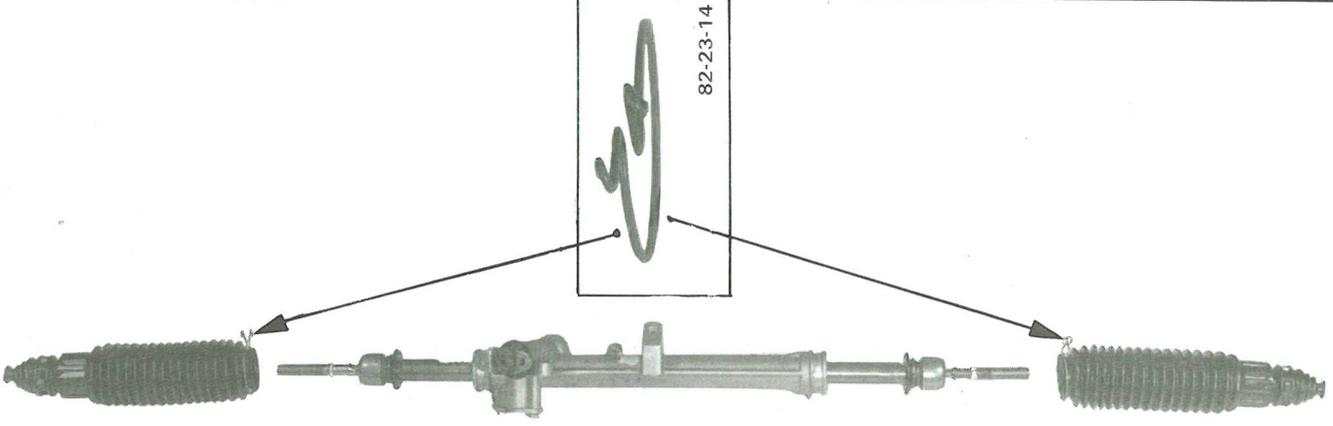


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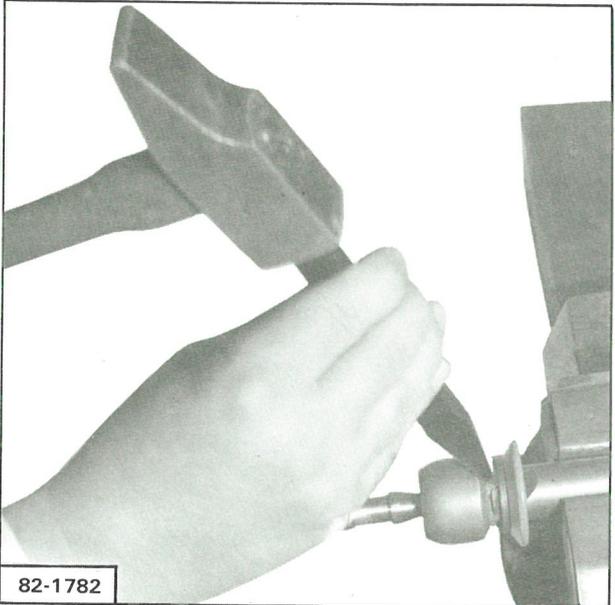
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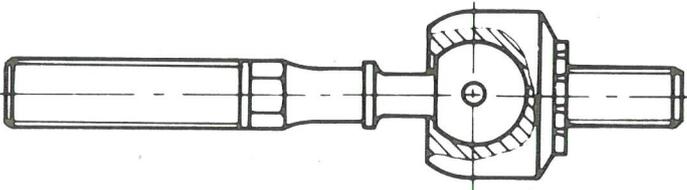
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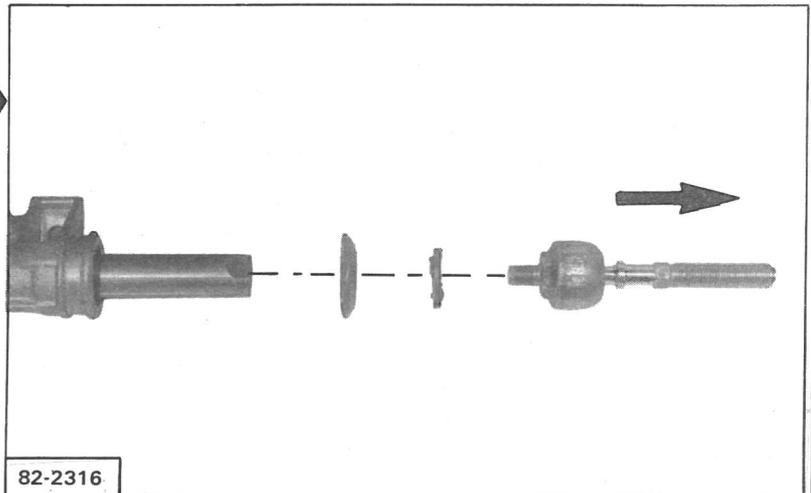
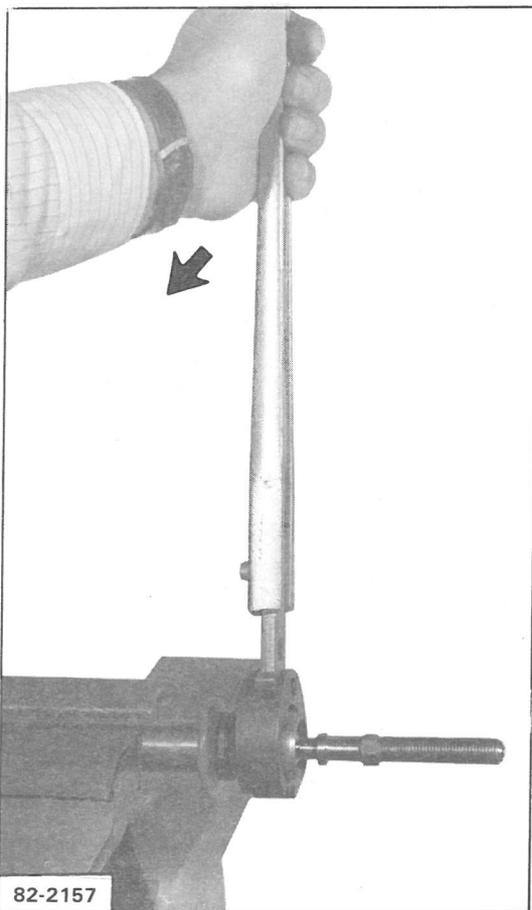
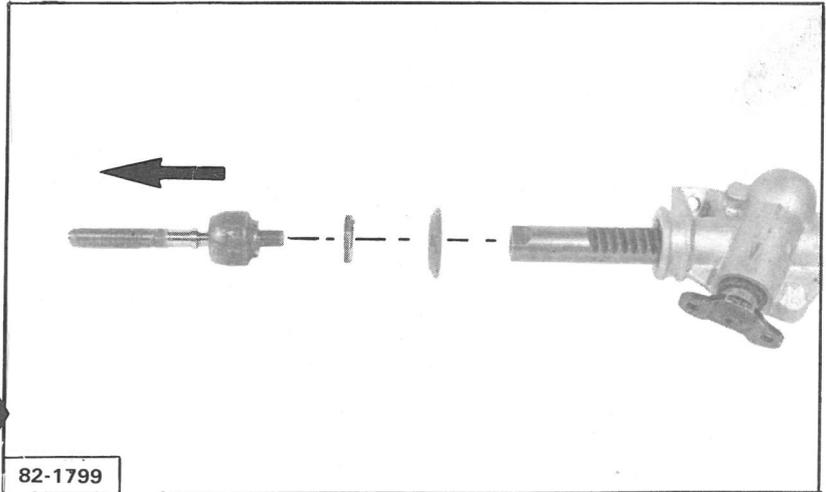
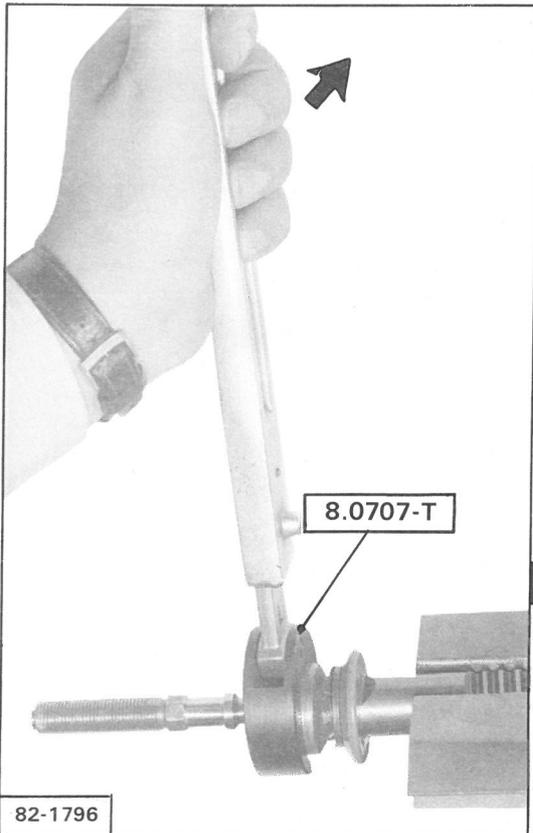
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82-1782

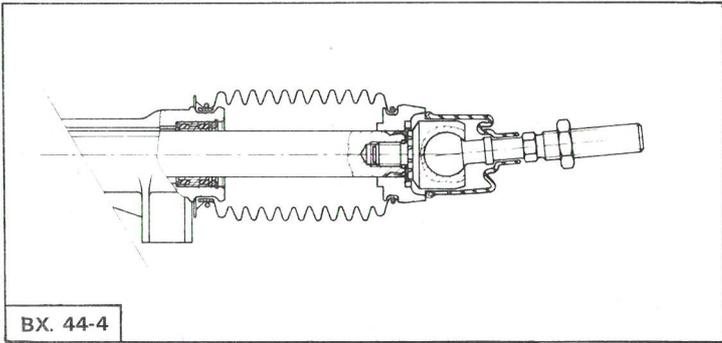


BX. 44-5

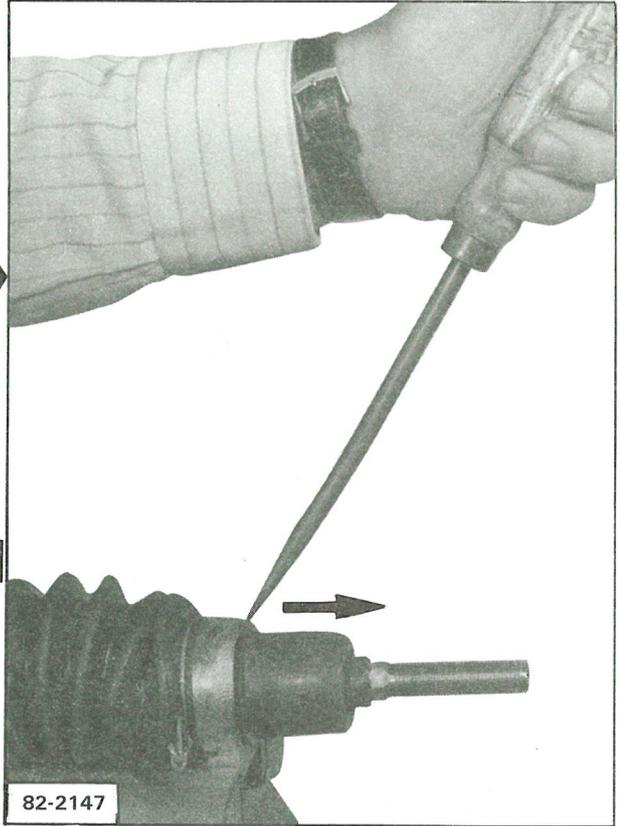




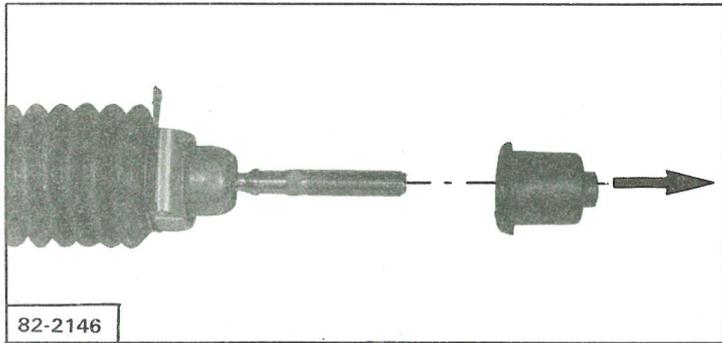
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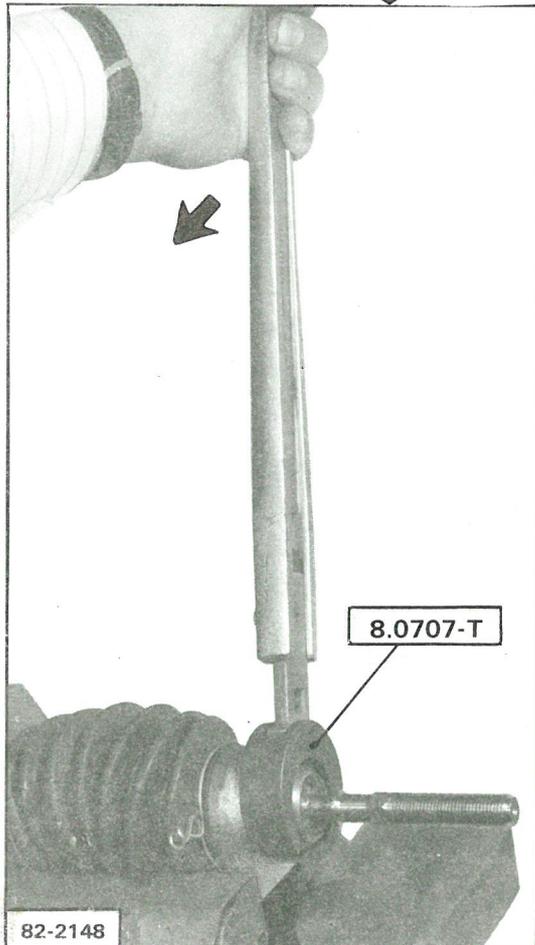
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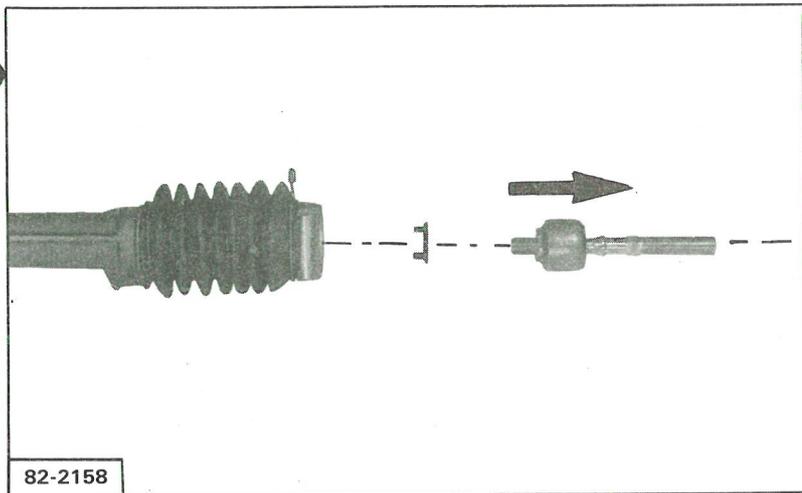
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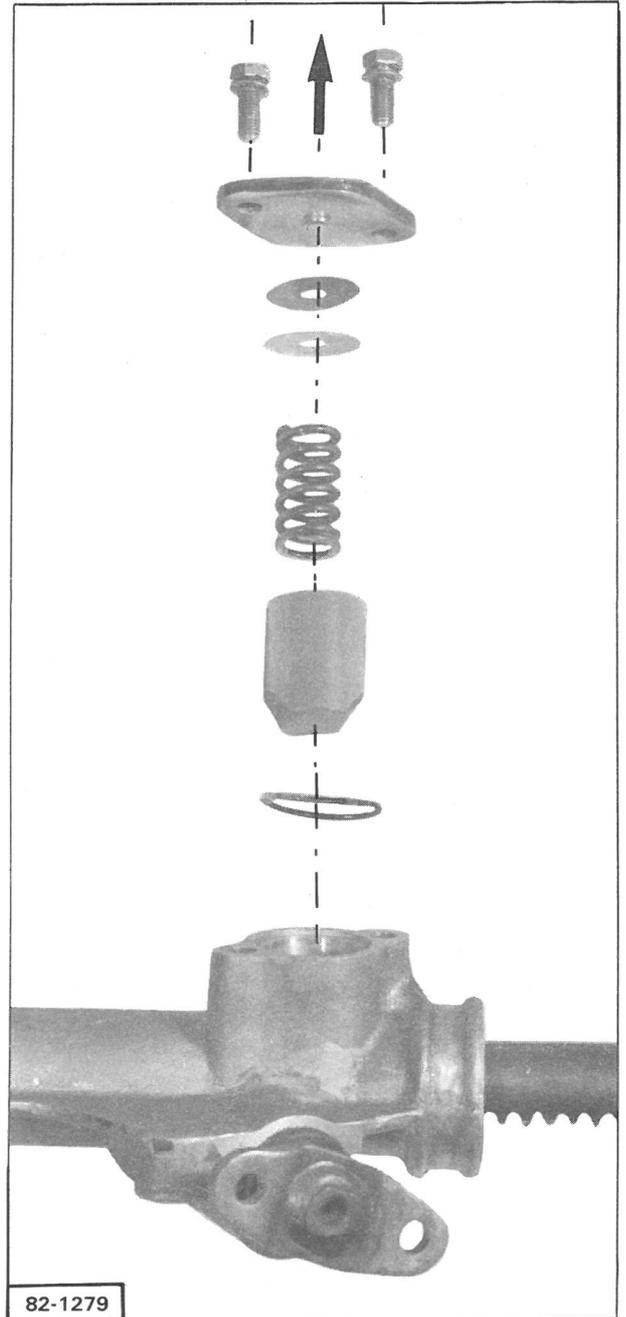
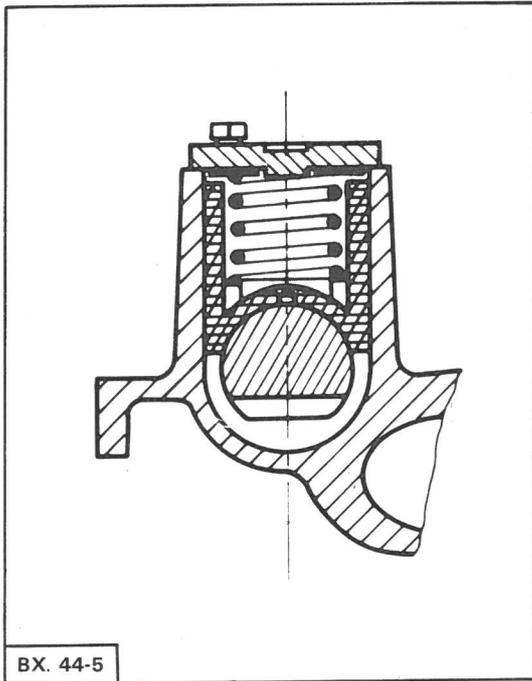
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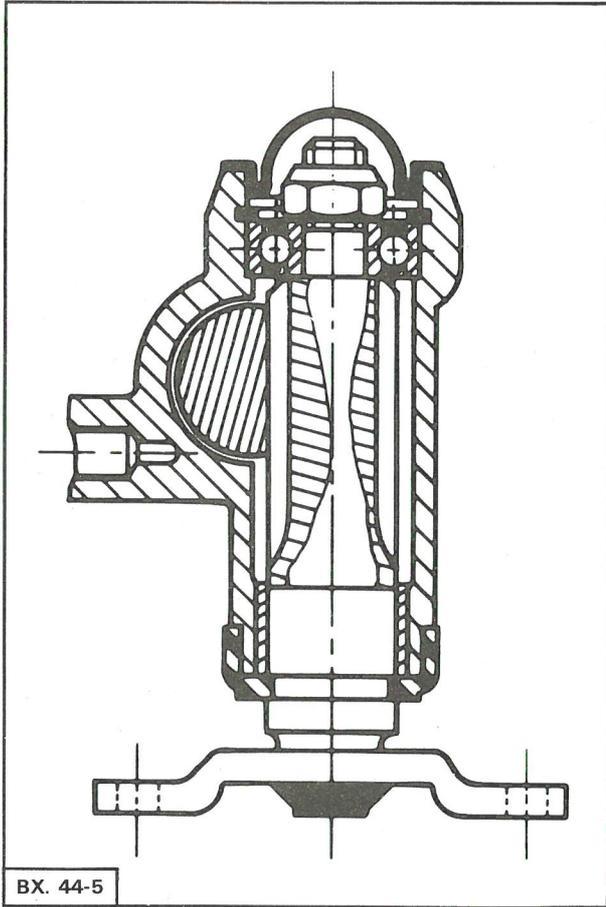


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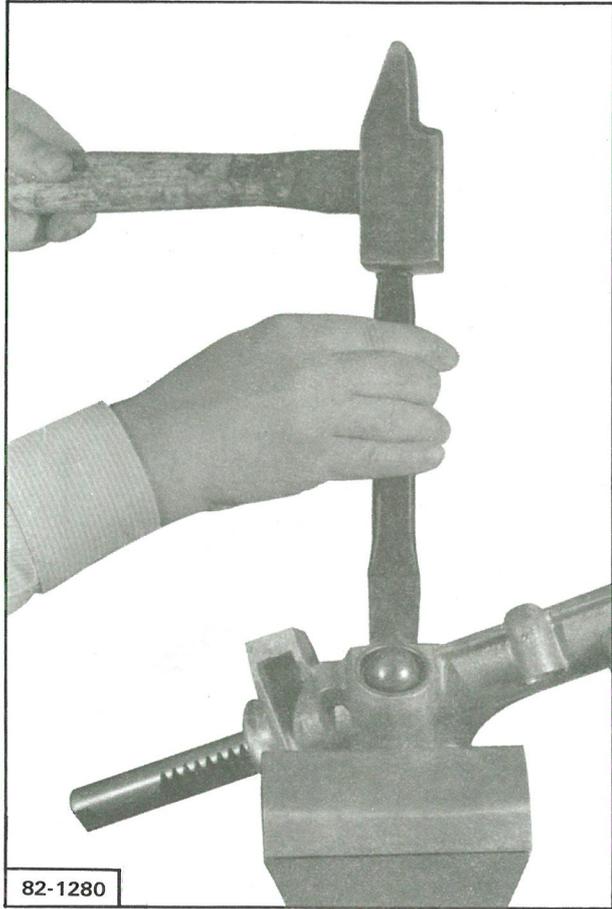


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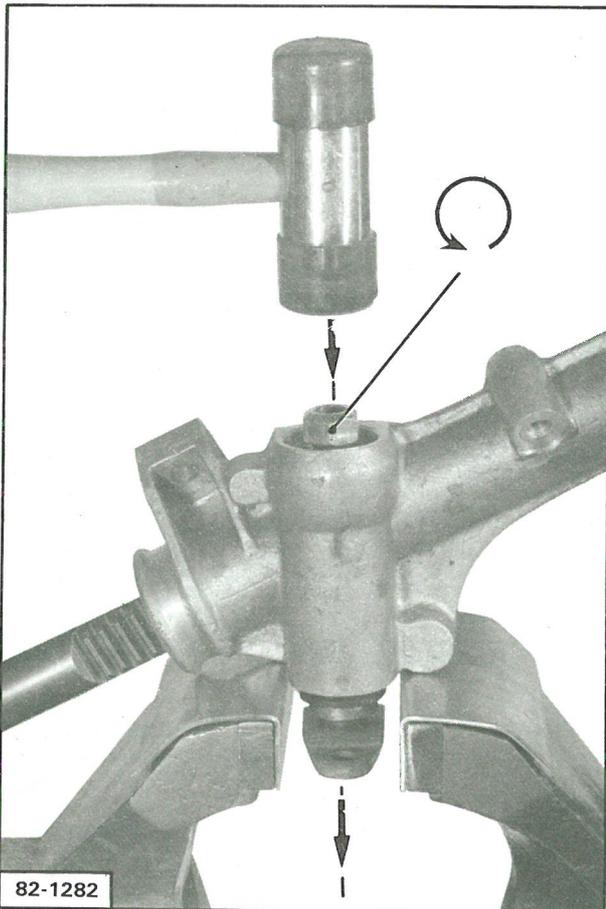




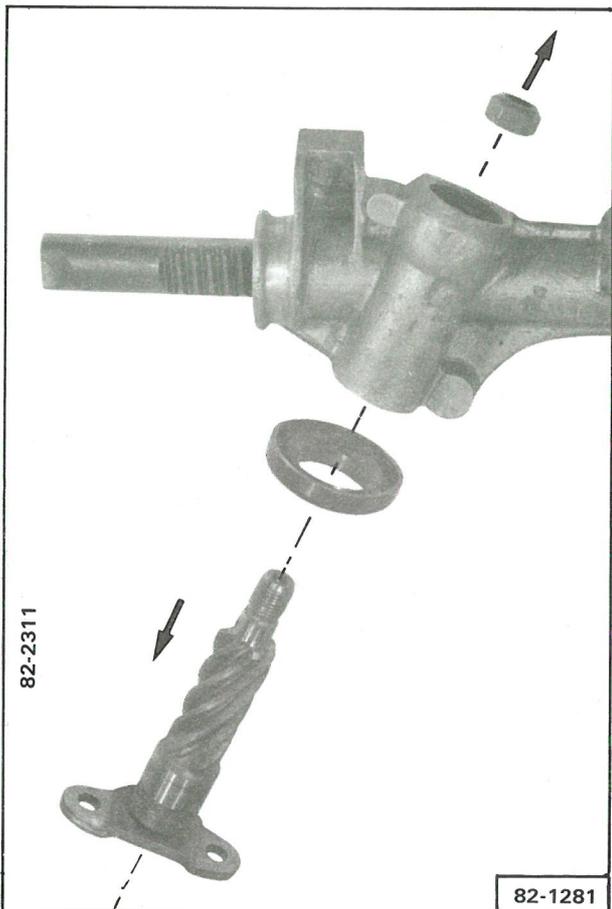
BX. 44-5



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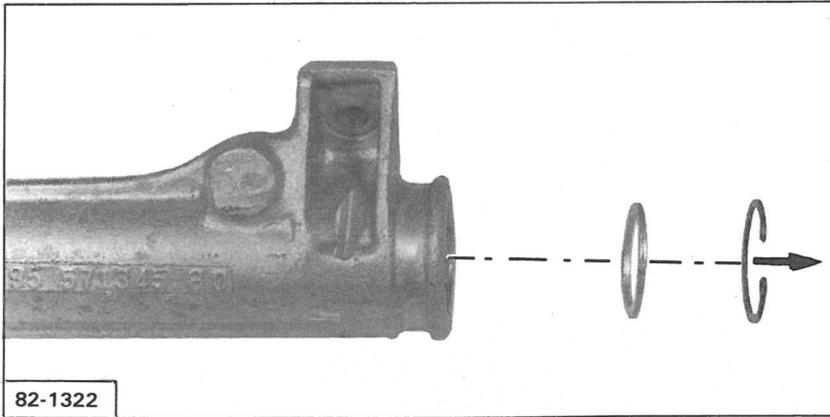
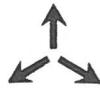


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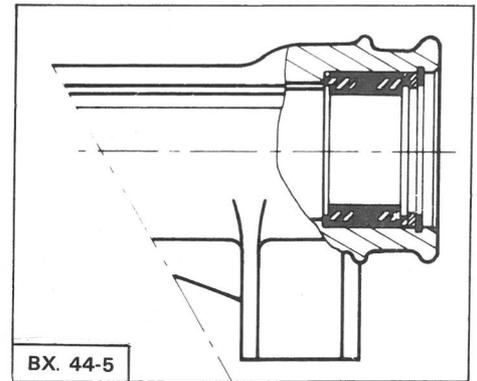


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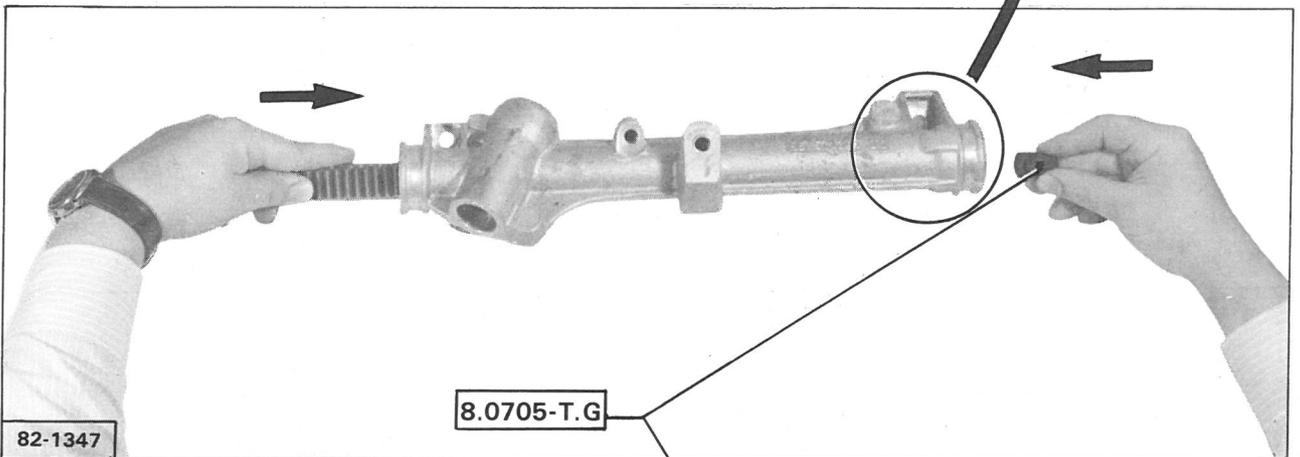
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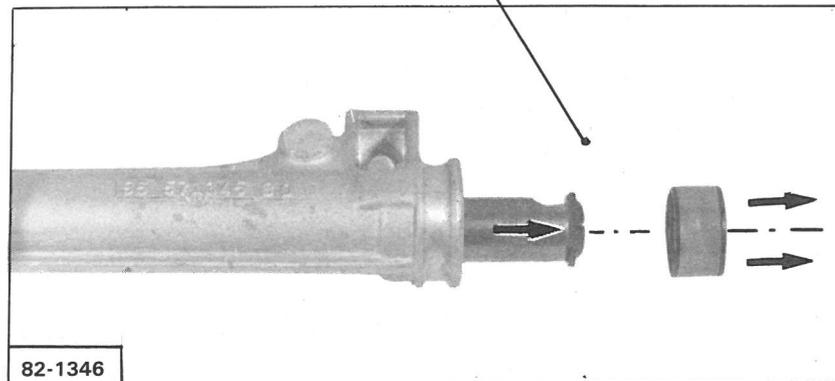


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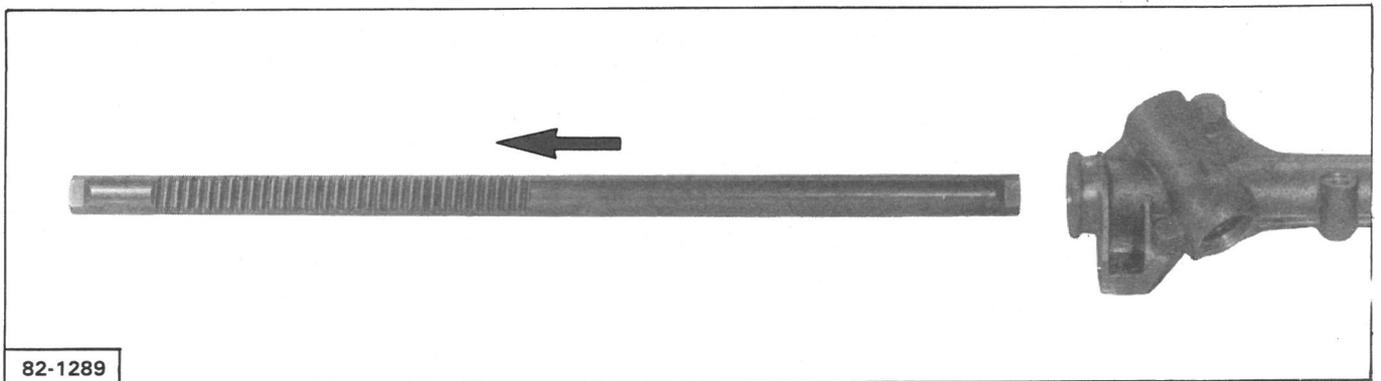


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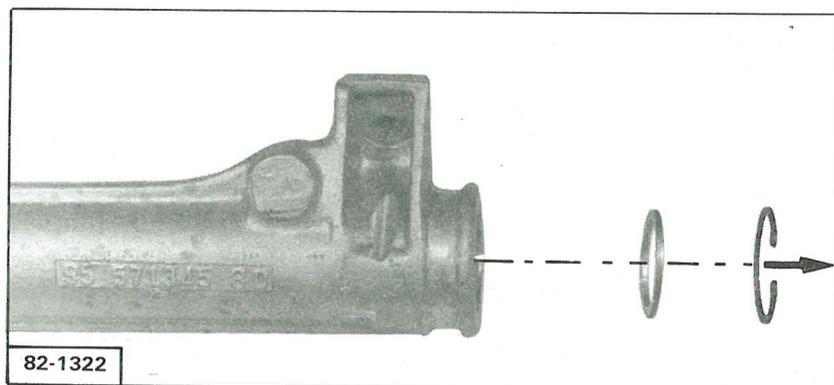
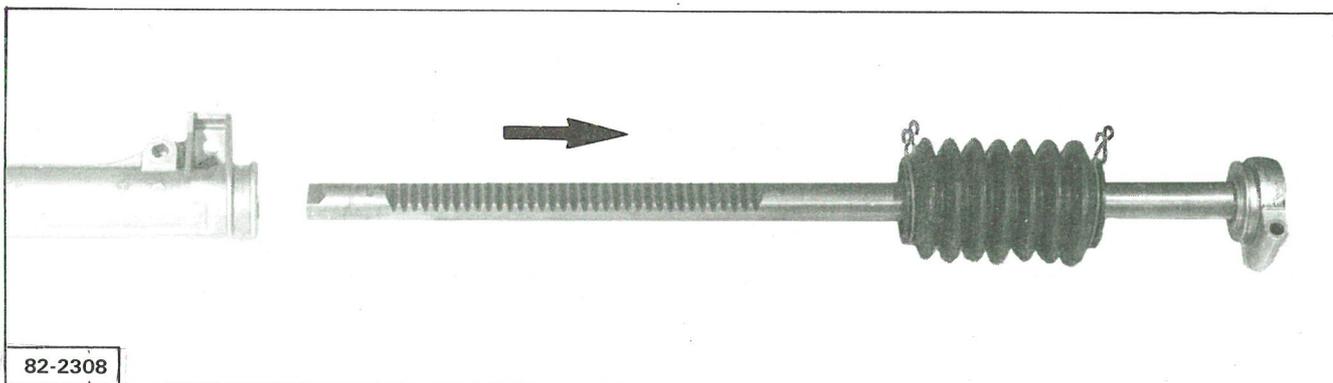
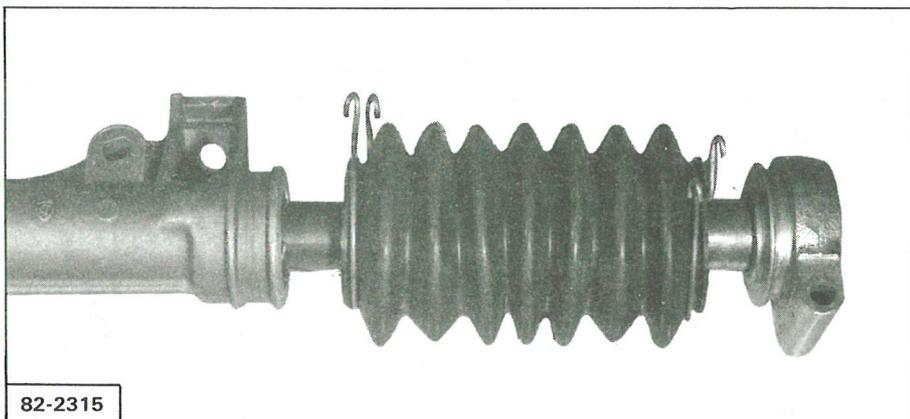
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82-1289

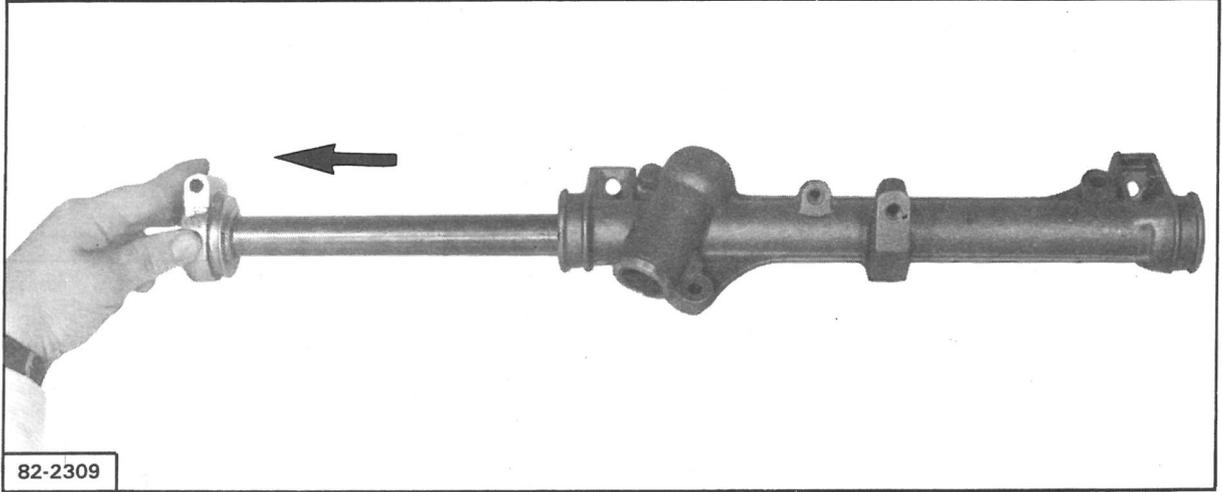
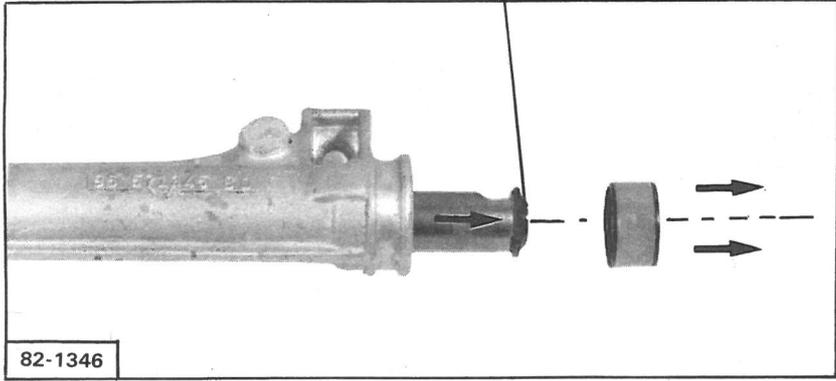
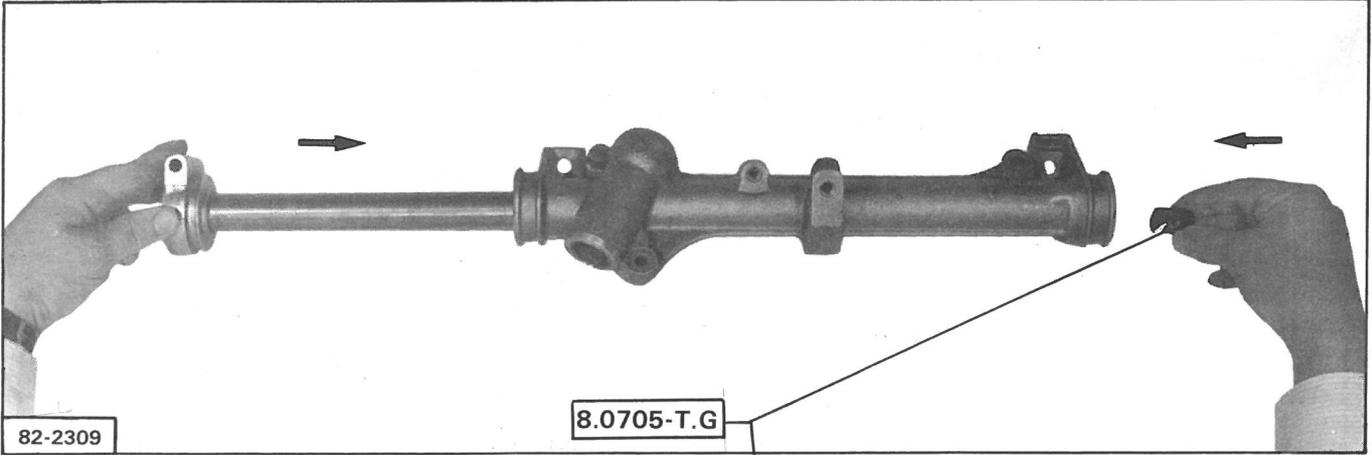


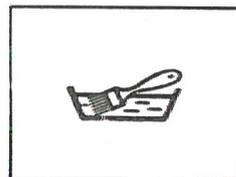
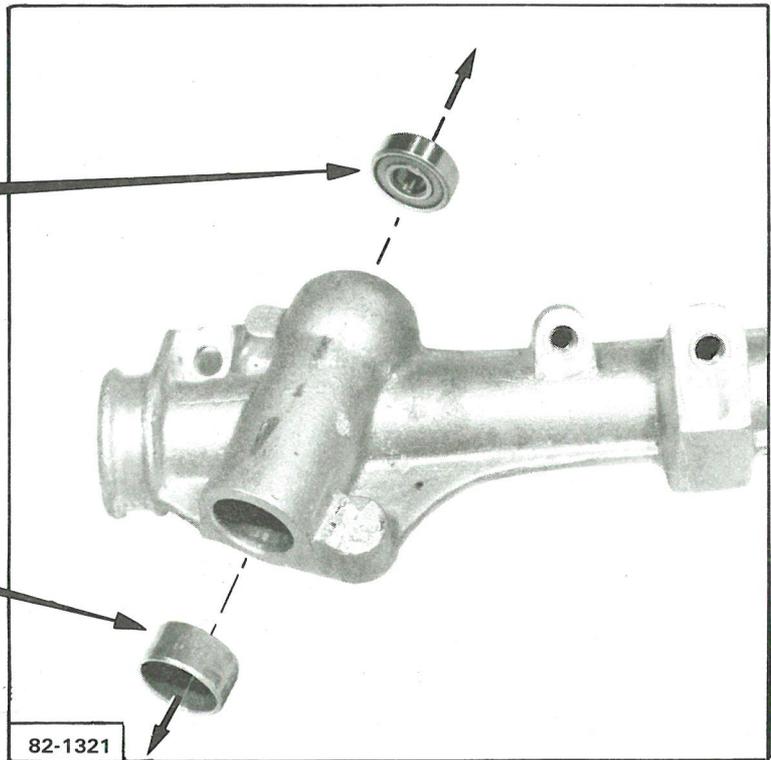
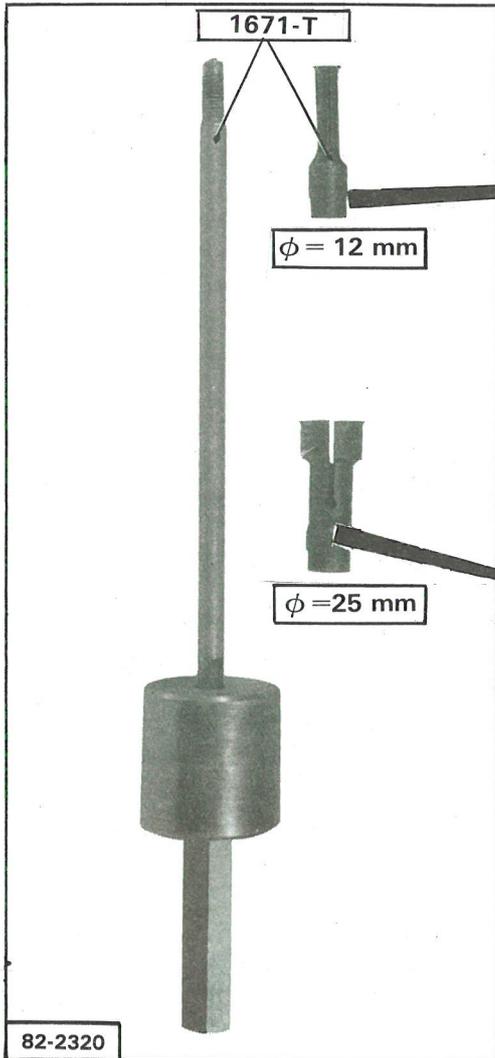
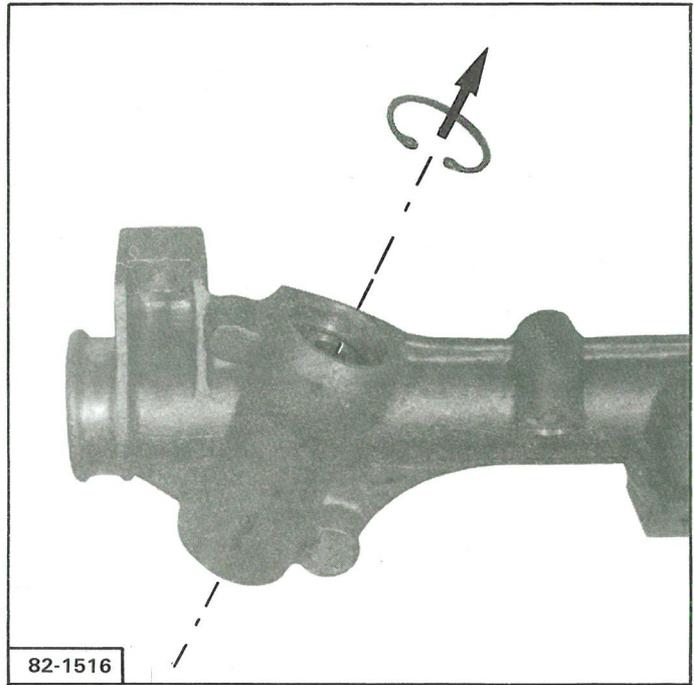
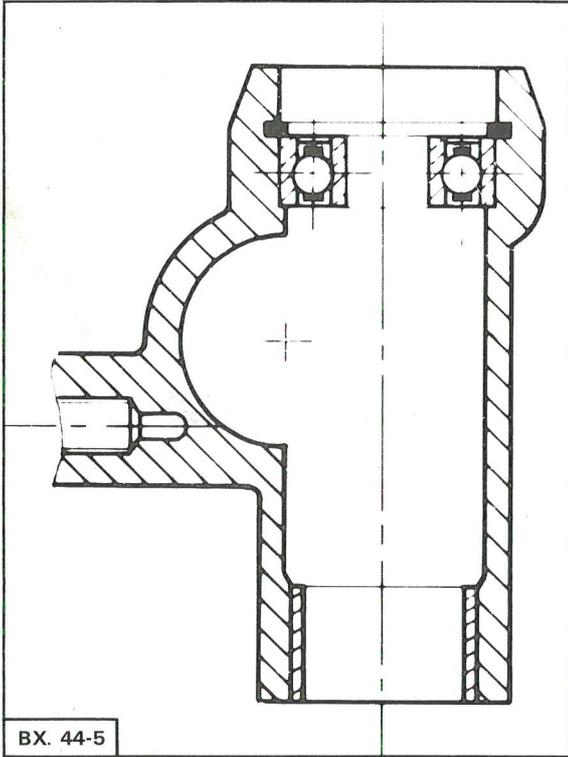
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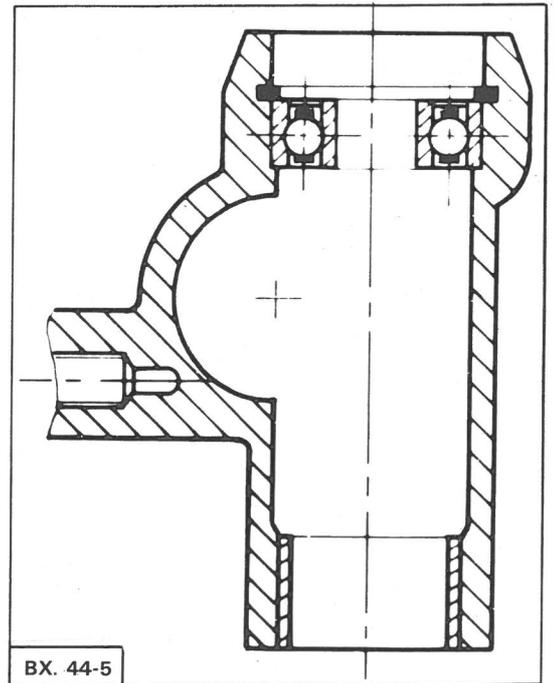
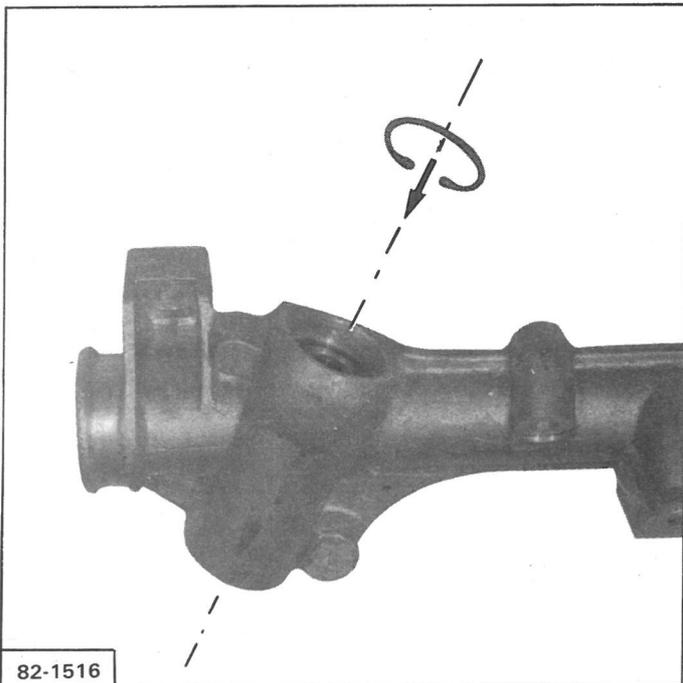
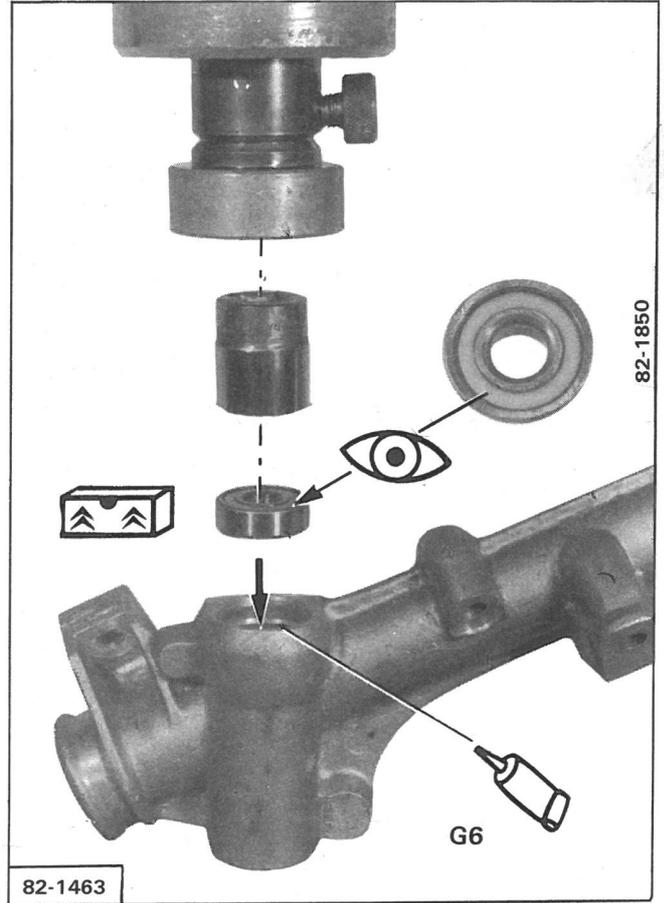
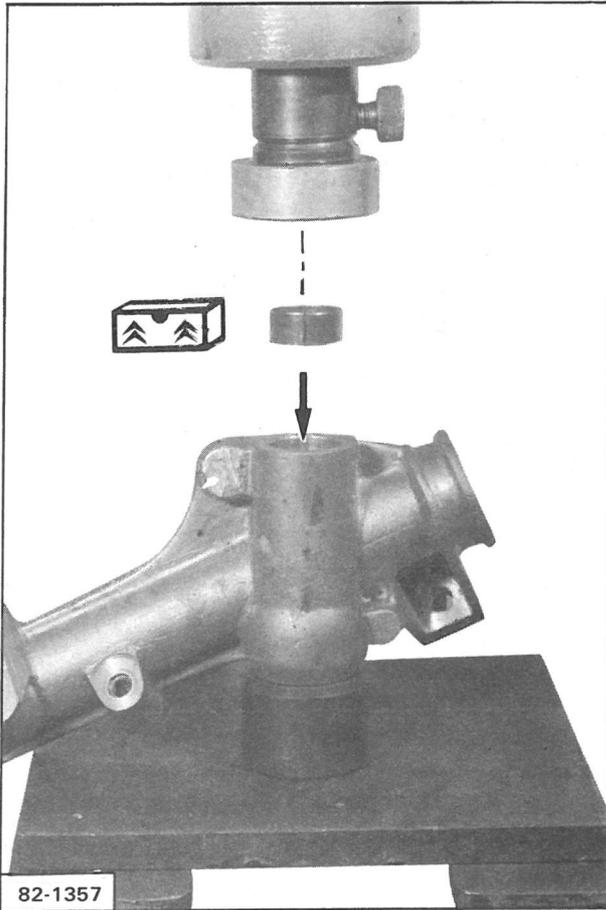


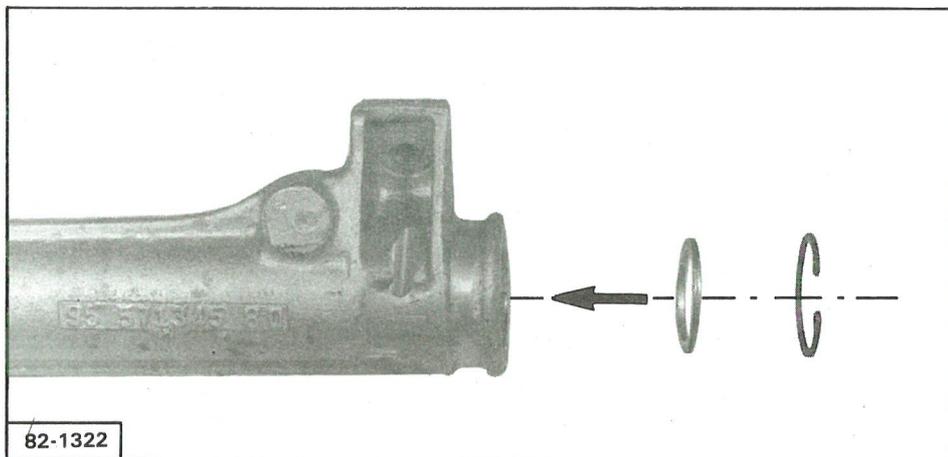
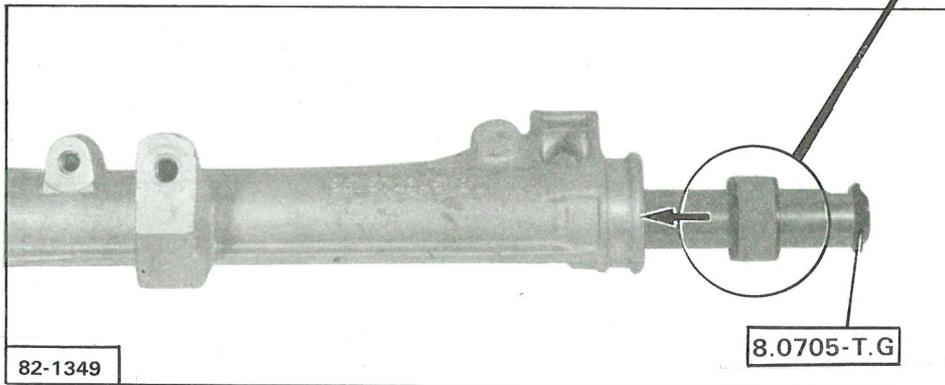
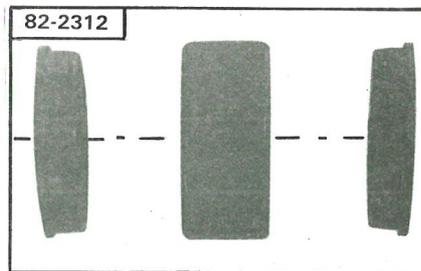
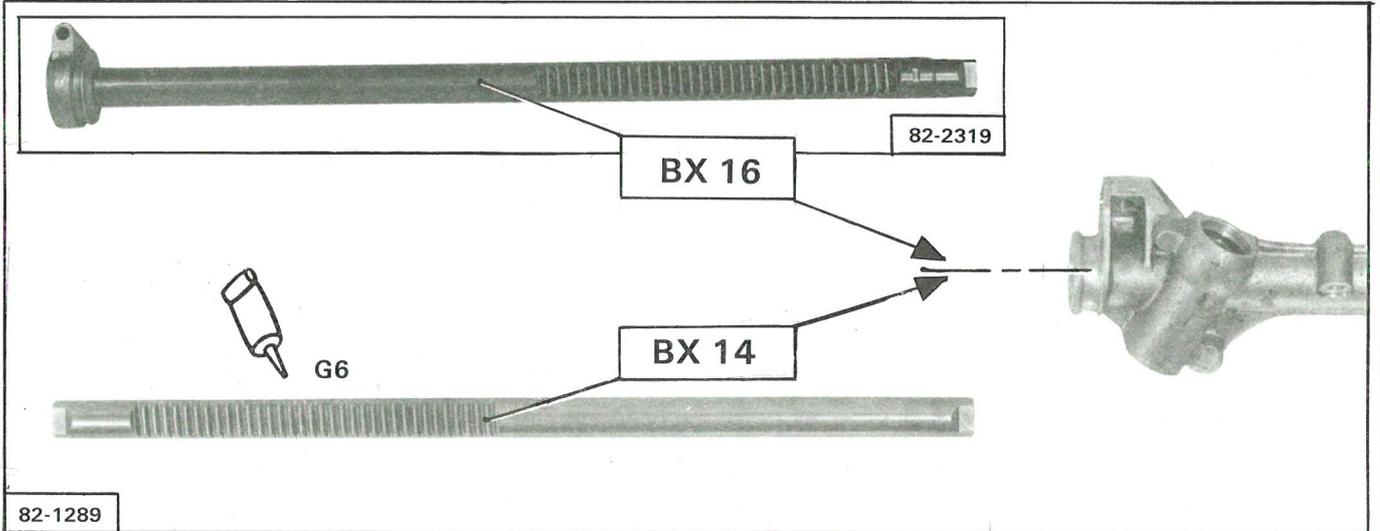


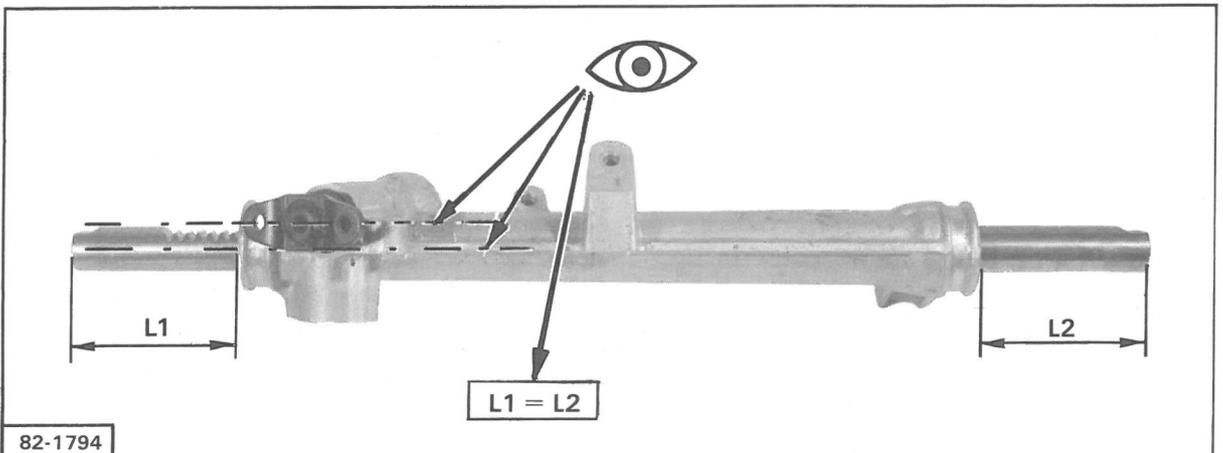
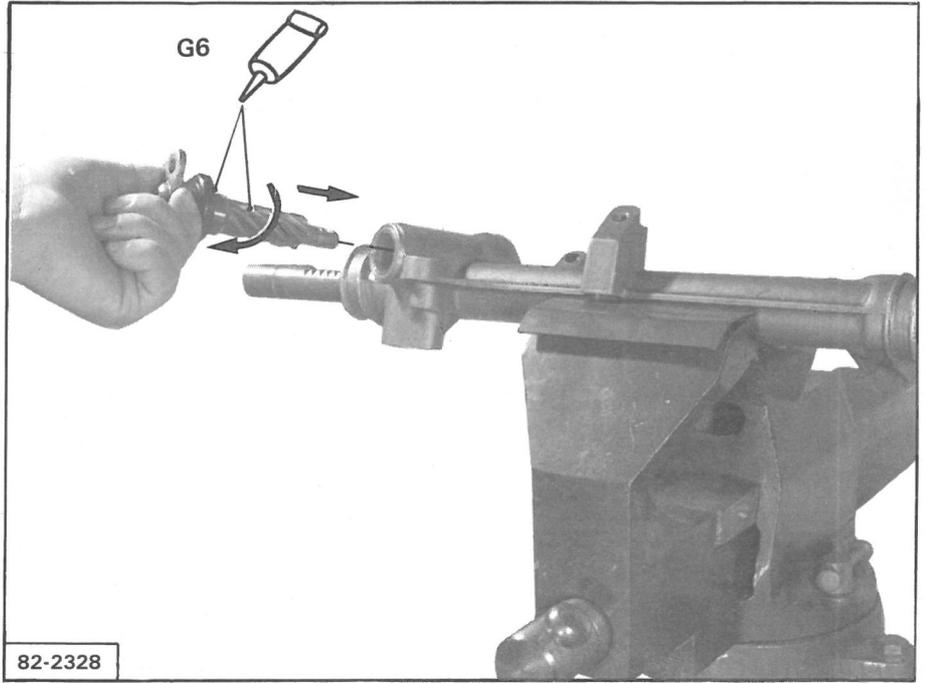
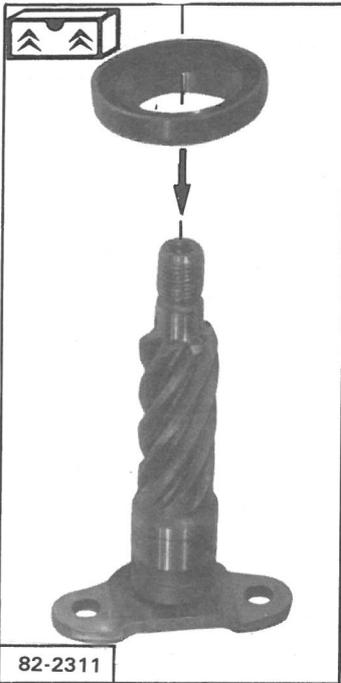
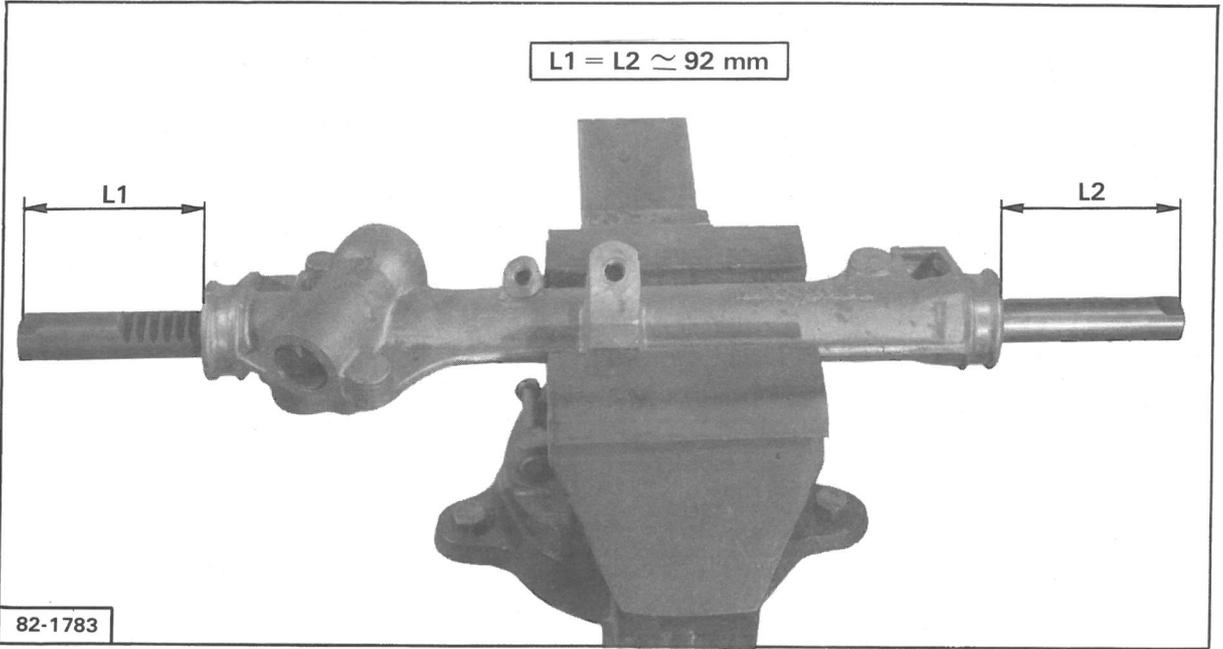
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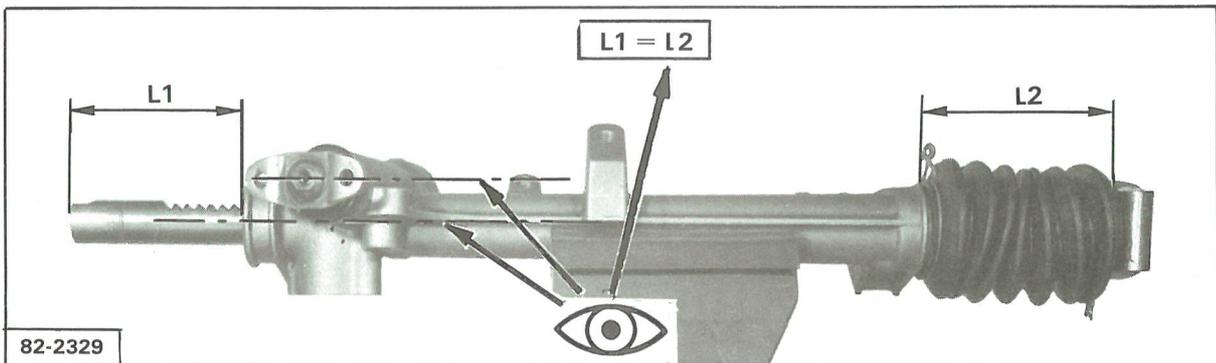
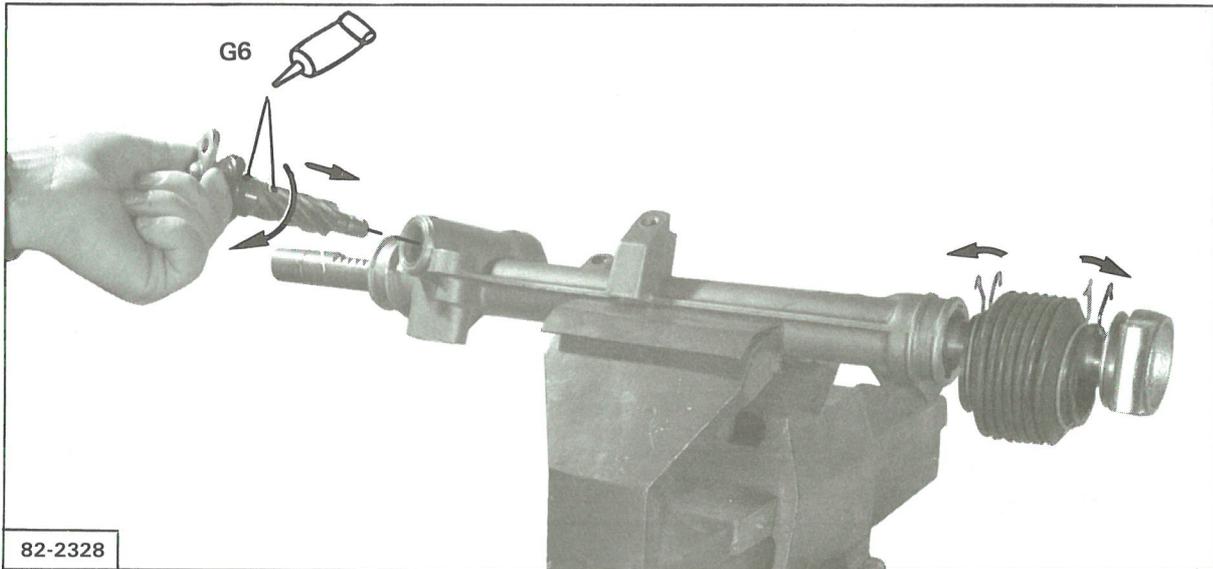
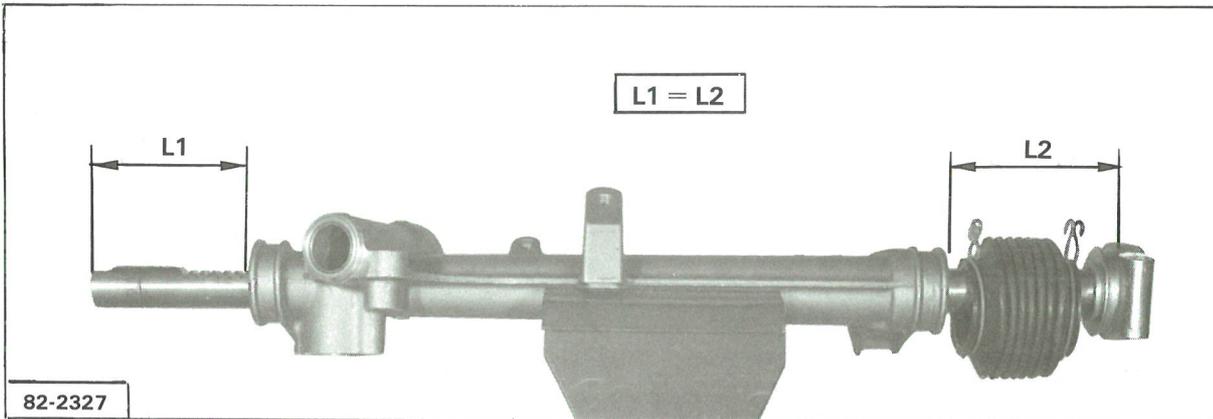
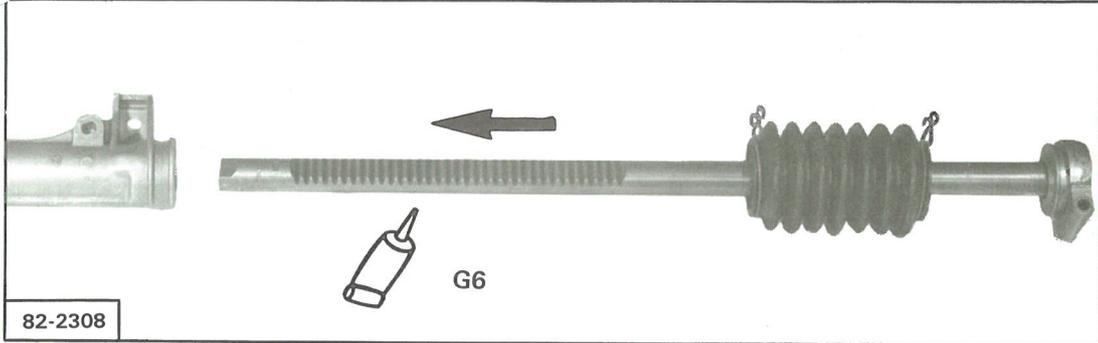


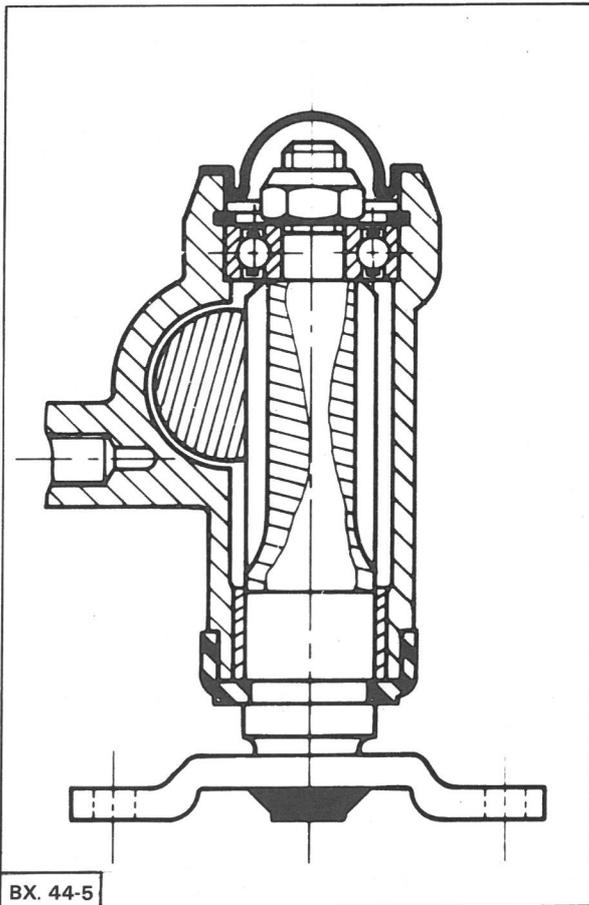
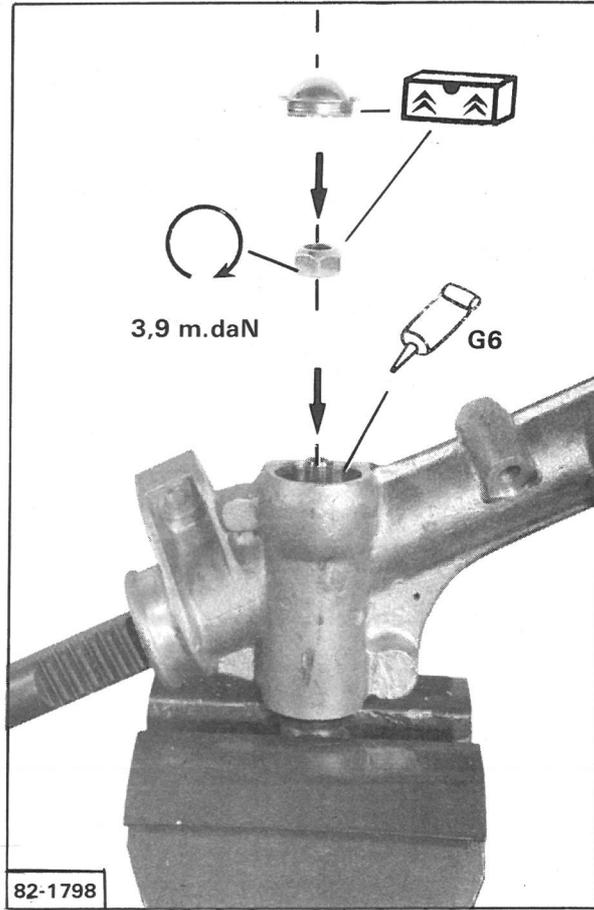


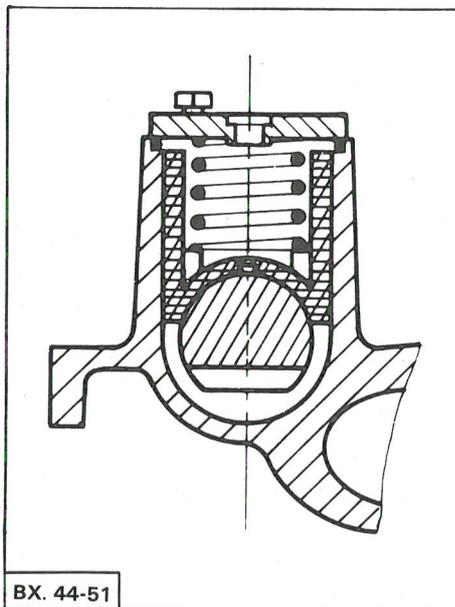
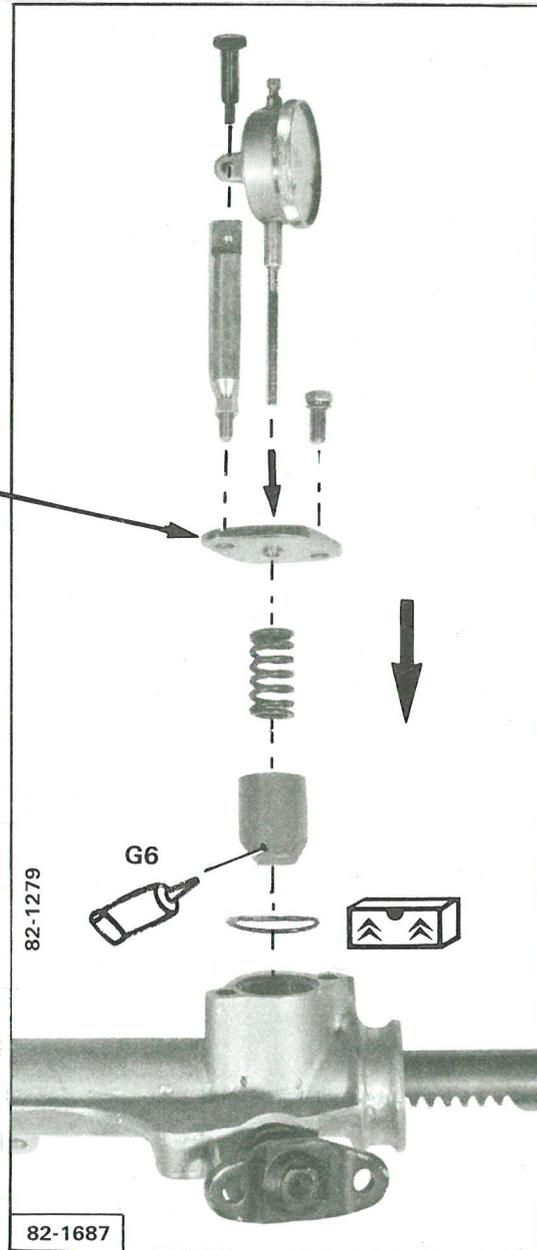
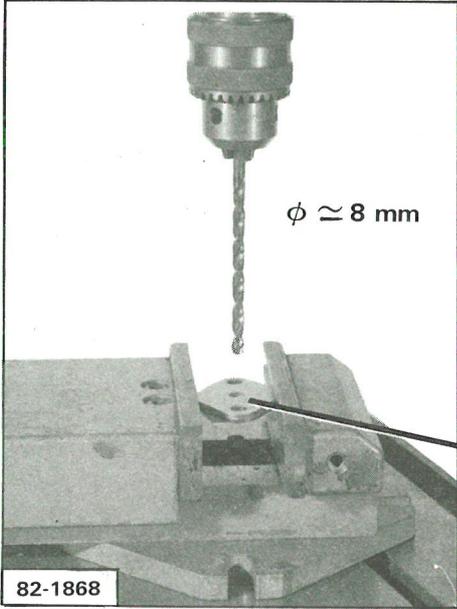


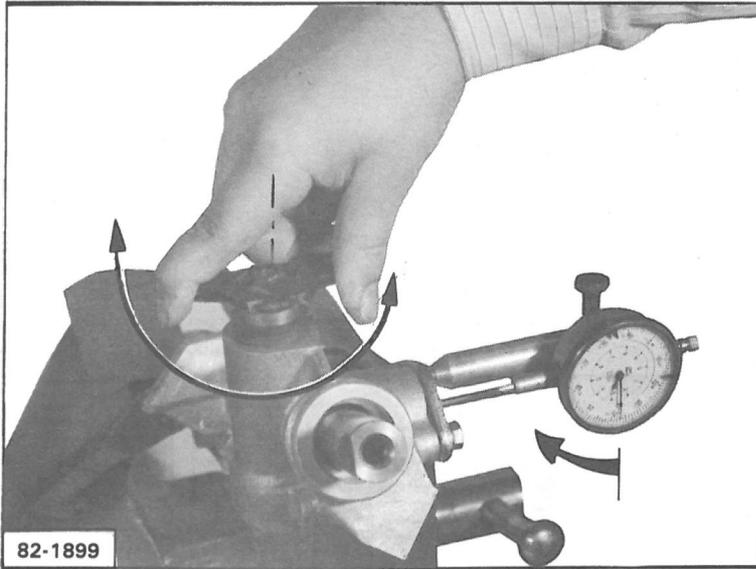


BX 16



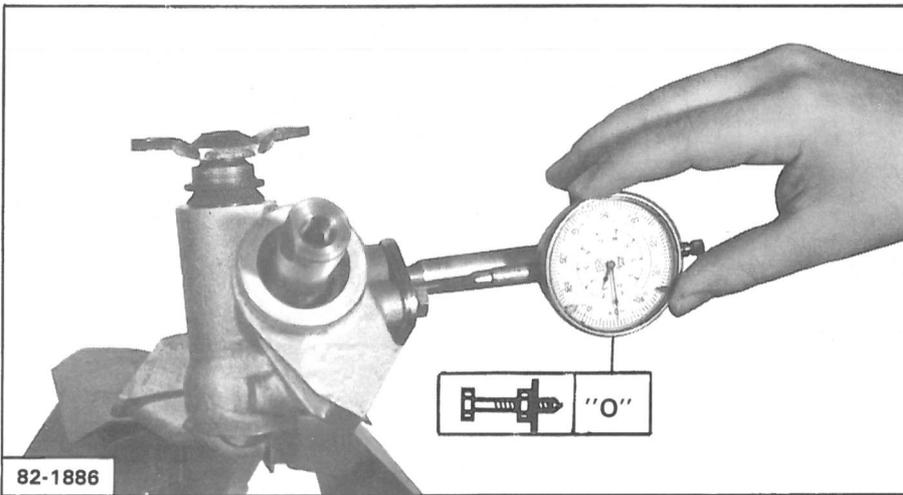




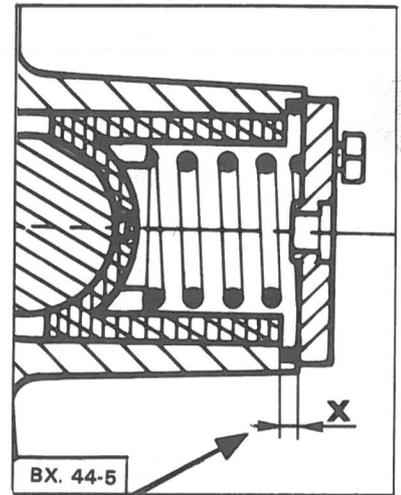


82-1899

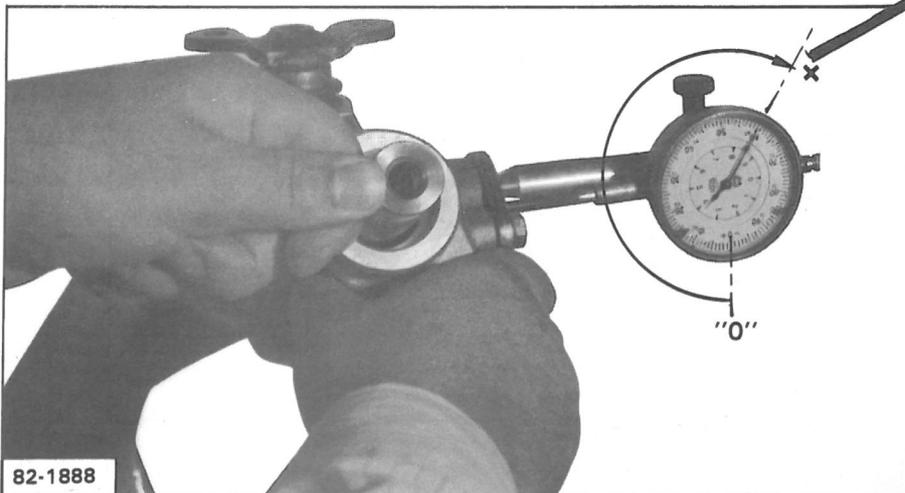
- D** Den höchsten Punkt suchen.
- DK** Find højeste punkt.
- E** Buscar el punto mas alto.
- GB** Ascertain the greatest stand-proud.
- I** Ricerzare il punto pi ù alto.
- NL** Z oek het hoogste punt op.
- P** Procurar o ponto mais alto.
- S** Sök den högsta punkten.
- F** Rechercher le point le plus haut.



82-1886



BX. 44-5



82-1888

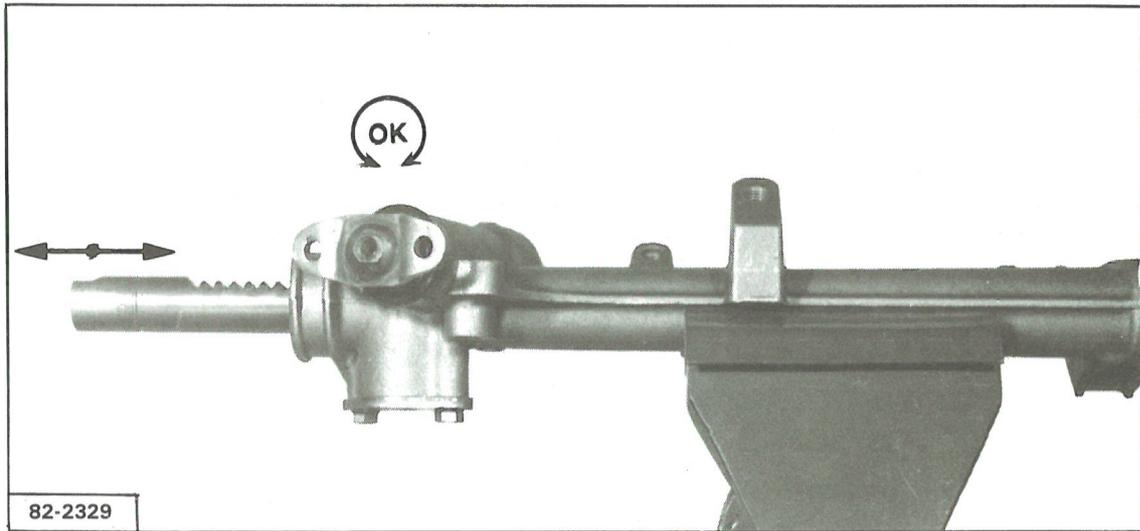
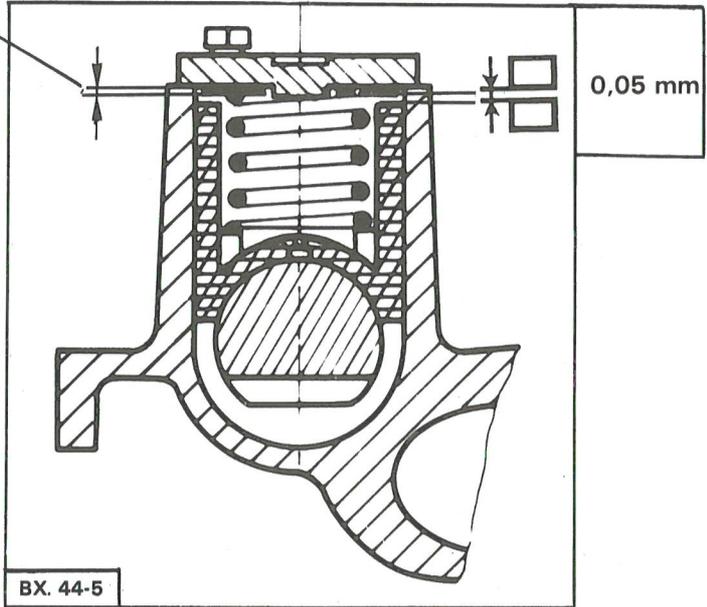
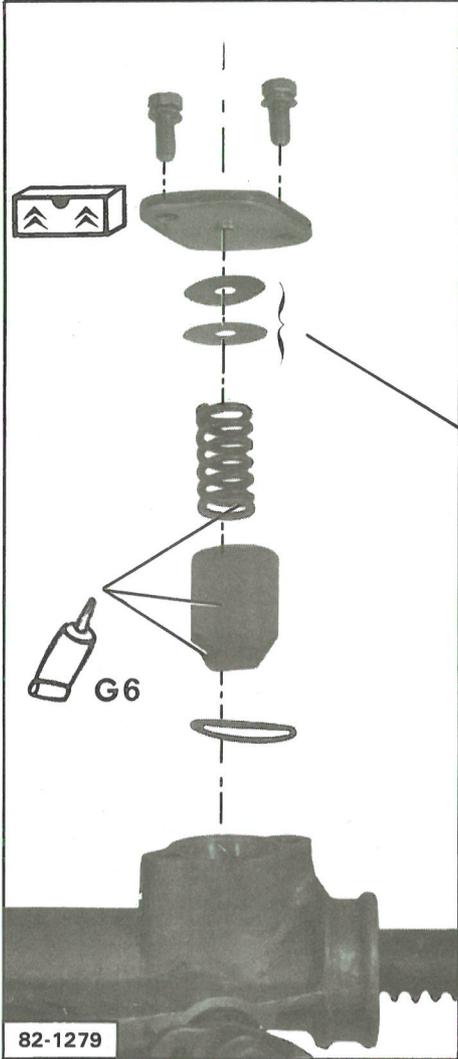
$e = x - 0,05 \text{ mm}$

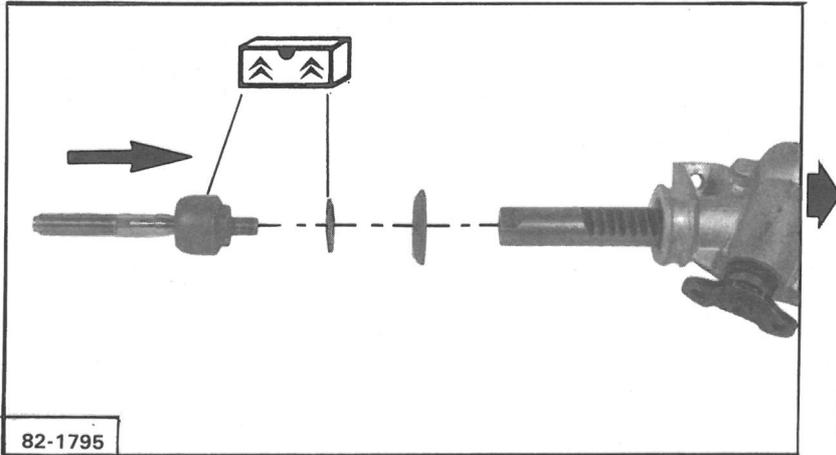
82-1279



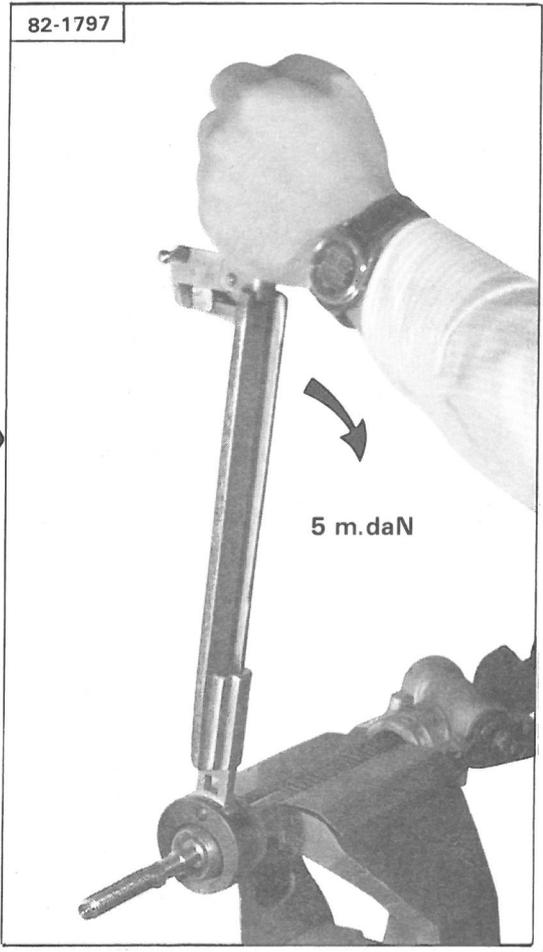
e

- | | | |
|---------|--|---------|
| 0,10 mm | | 0,30 mm |
| 0,12 mm | | 0,40 mm |
| 0,15 mm | | |
| 0,18 mm | | 0,70 mm |
| 0,20 mm | | 0,80 mm |

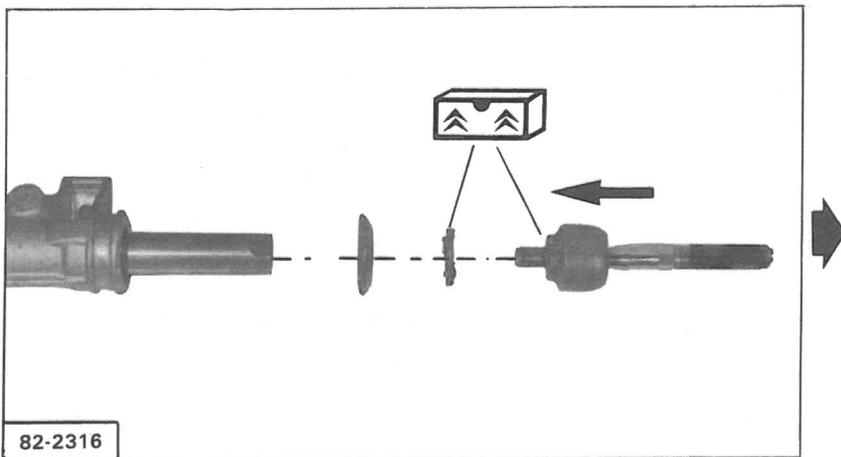




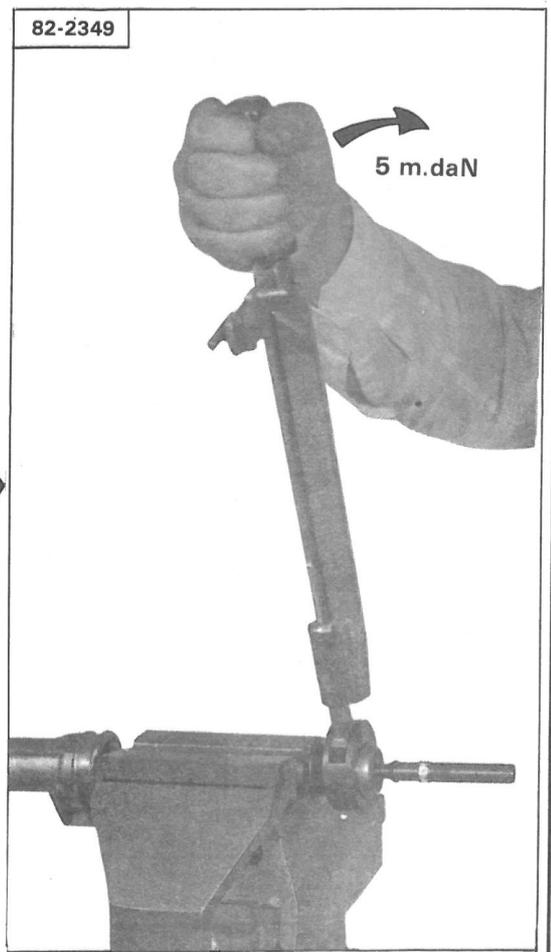
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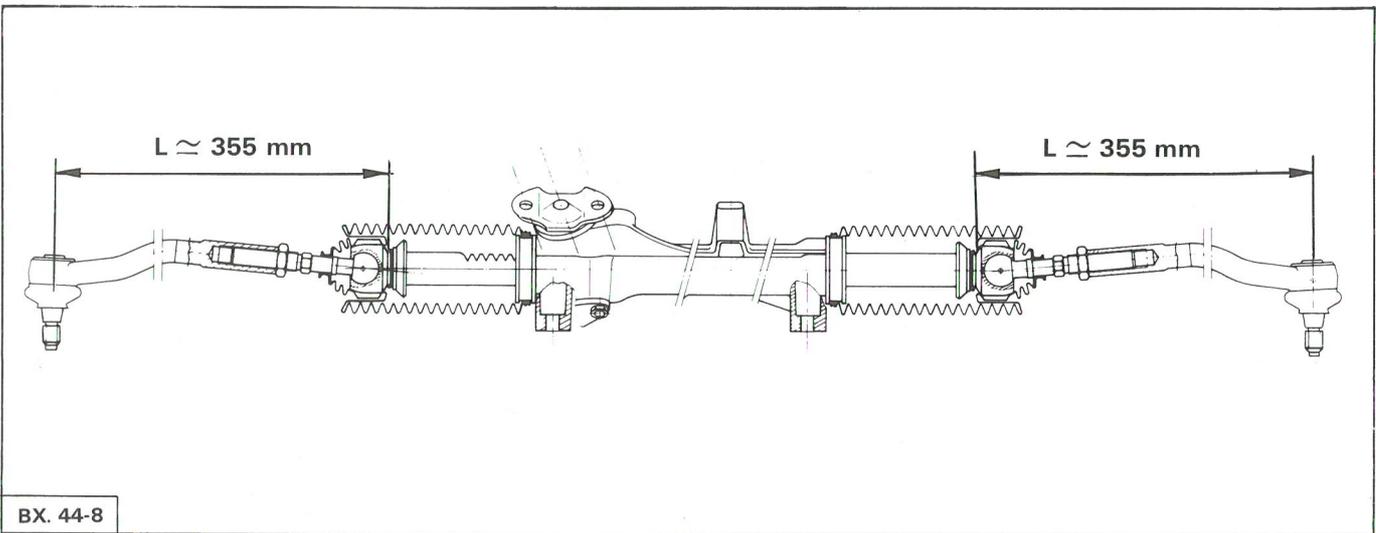
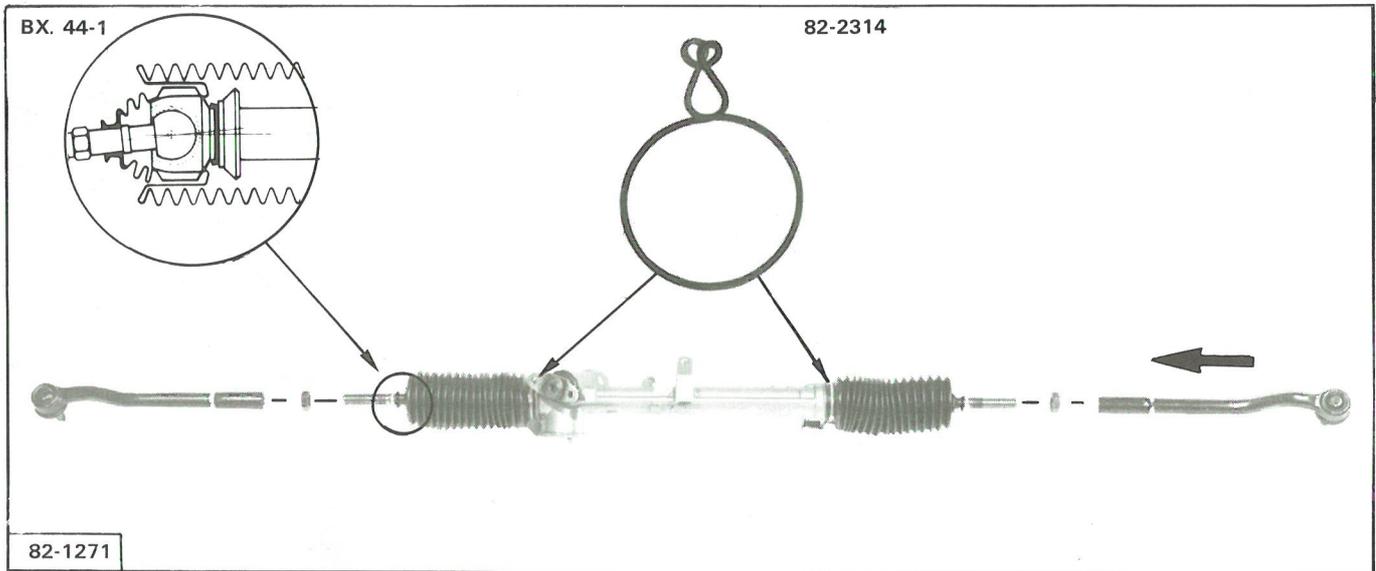
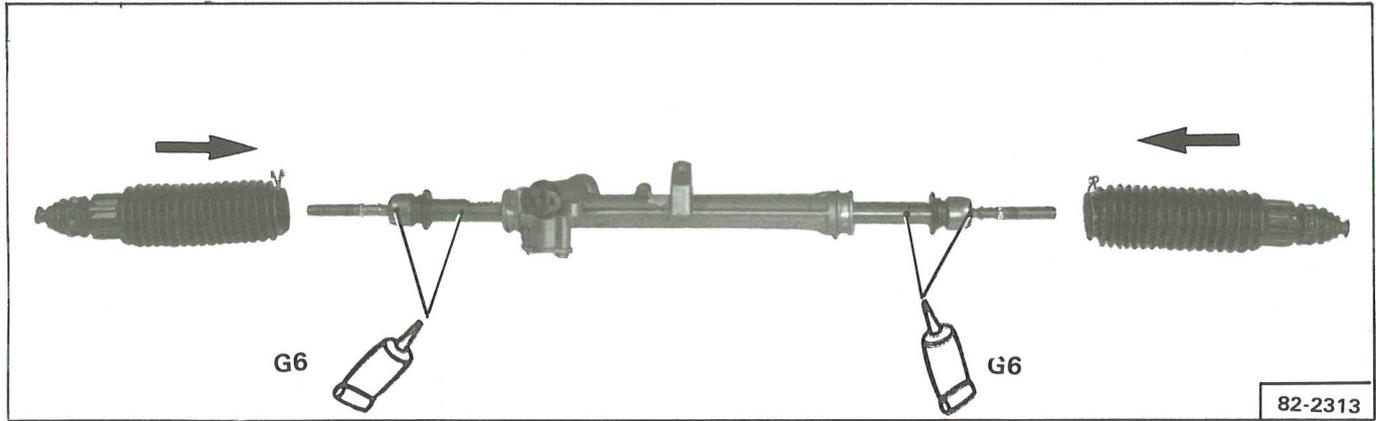
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82-2316

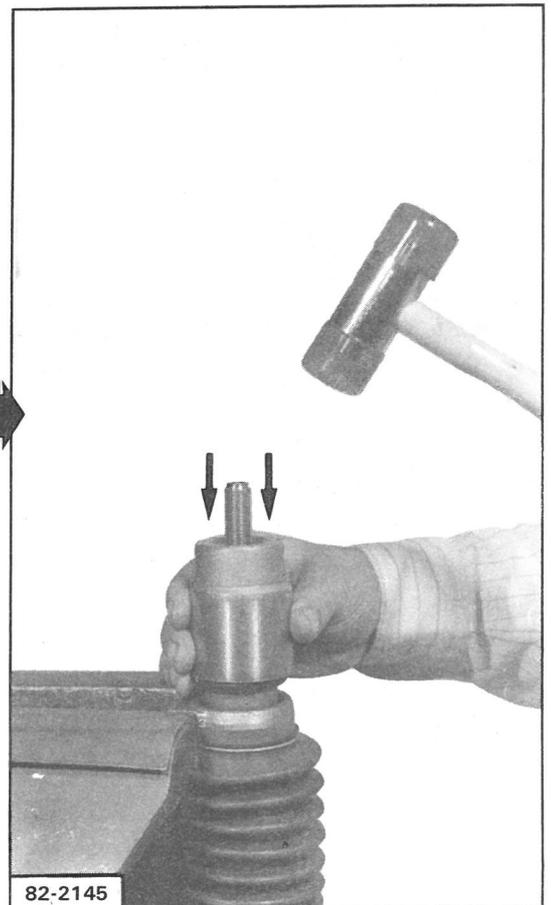
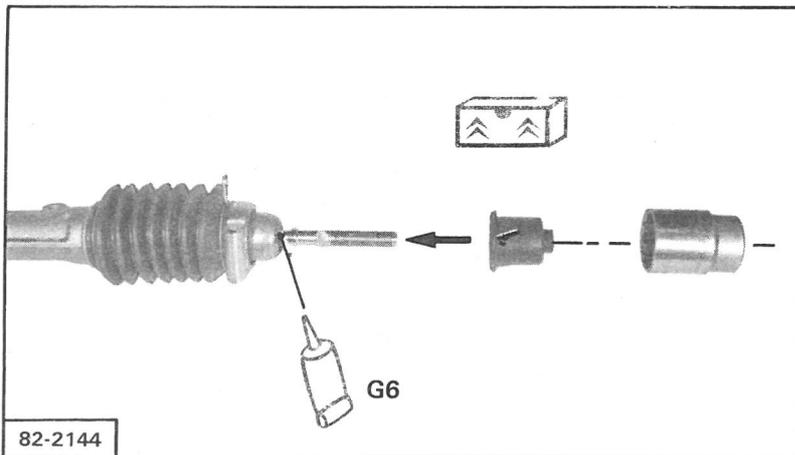
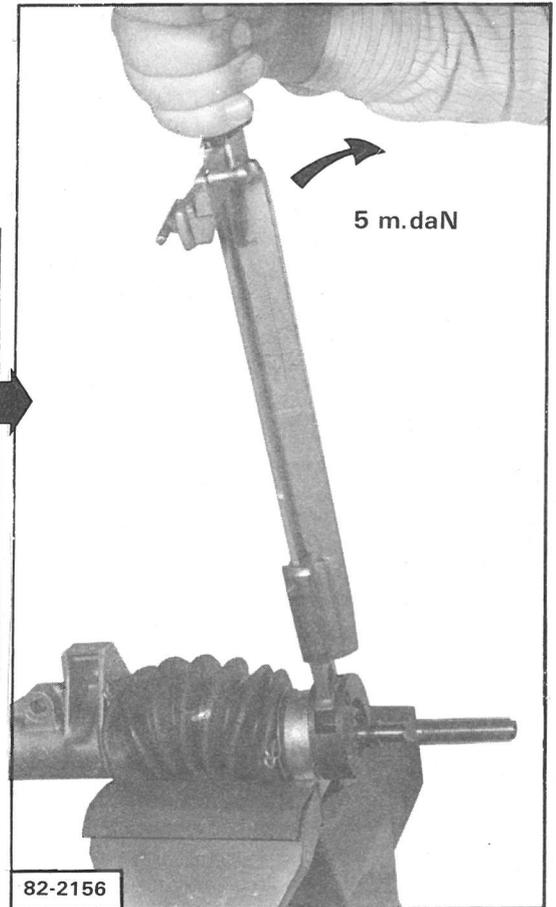
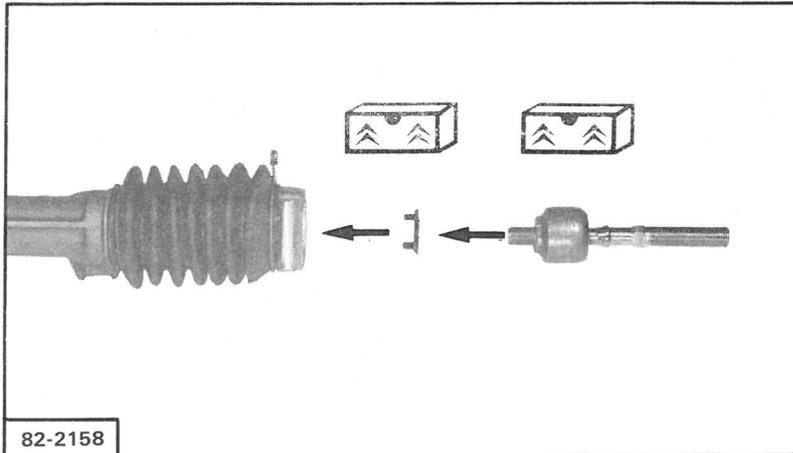


82-2349



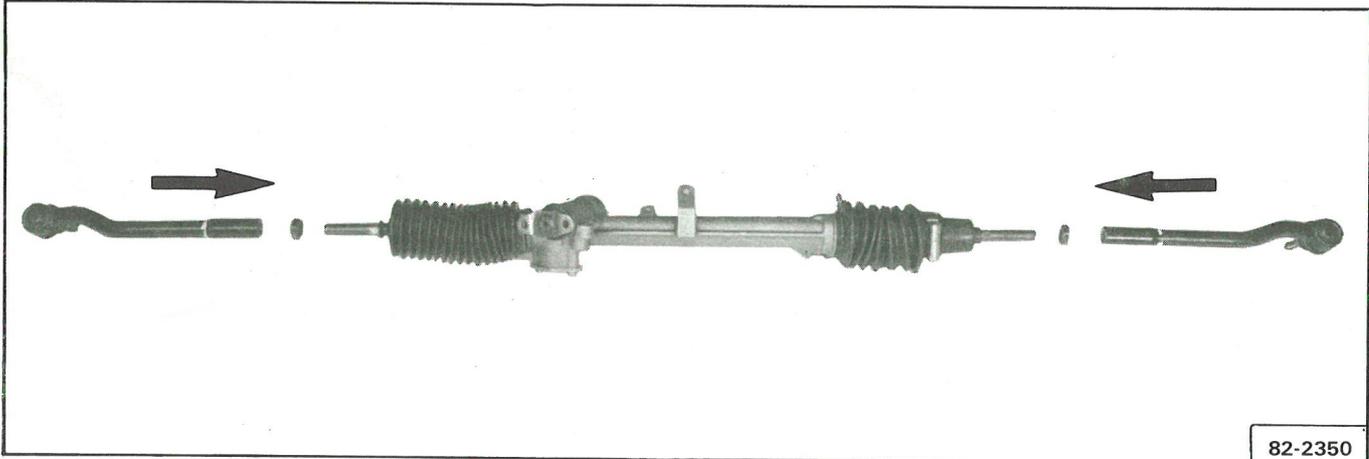


BX 16

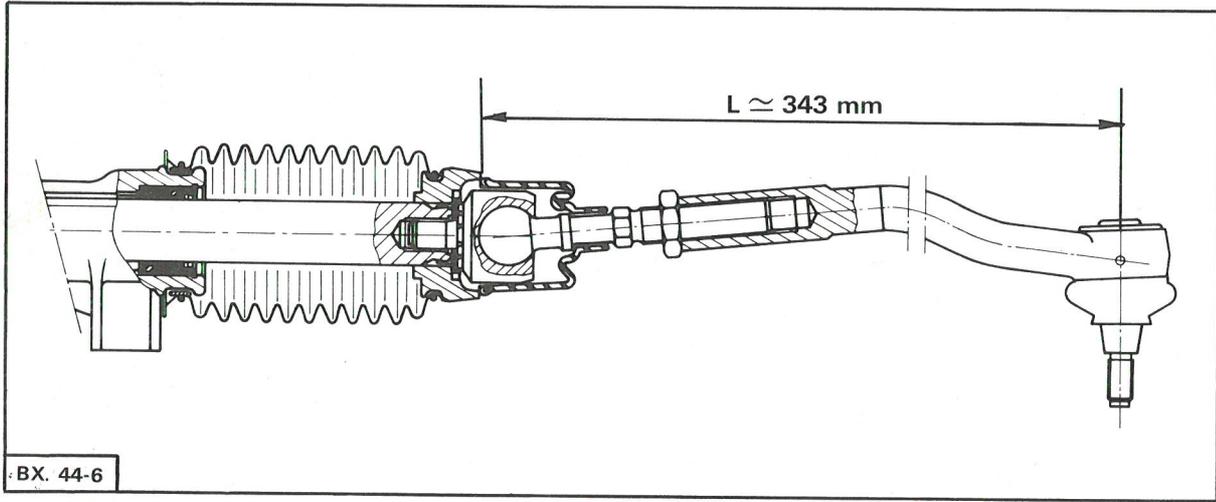




BX 16



82-2350



BX. 44-6

Operation number	DESCRIPTION
XB. 450-00	Characteristics and special features of the braking system
XB. 453-0	Checking and adjusting the braking controls : <ul style="list-style-type: none">- Bleeding the brakes- Pedal clearance- Adjusting the handbrake
XB. 453-1	Working on the braking system
XB. 453-3	Reconditioning a rear brake unit   

*CHARACTERISTICS AND SPECIAL FEATURES
OF THE BRAKING SYSTEM*

CHARACTERISTICS

Main brake :

- Disc brakes on all four wheels.
- Power-operated hydraulic control (system with compensator-control valve).
- Front and rear circuits separated :
 - The front circuit is supplied by the main accumulator.
 - The rear circuit is supplied by the rear suspension.
 - The front brakes have priority supply via the security valve.

Handbrake :

- Front wheels, mechanism incorporated in the main brake control.

Total friction area : 208 cm²

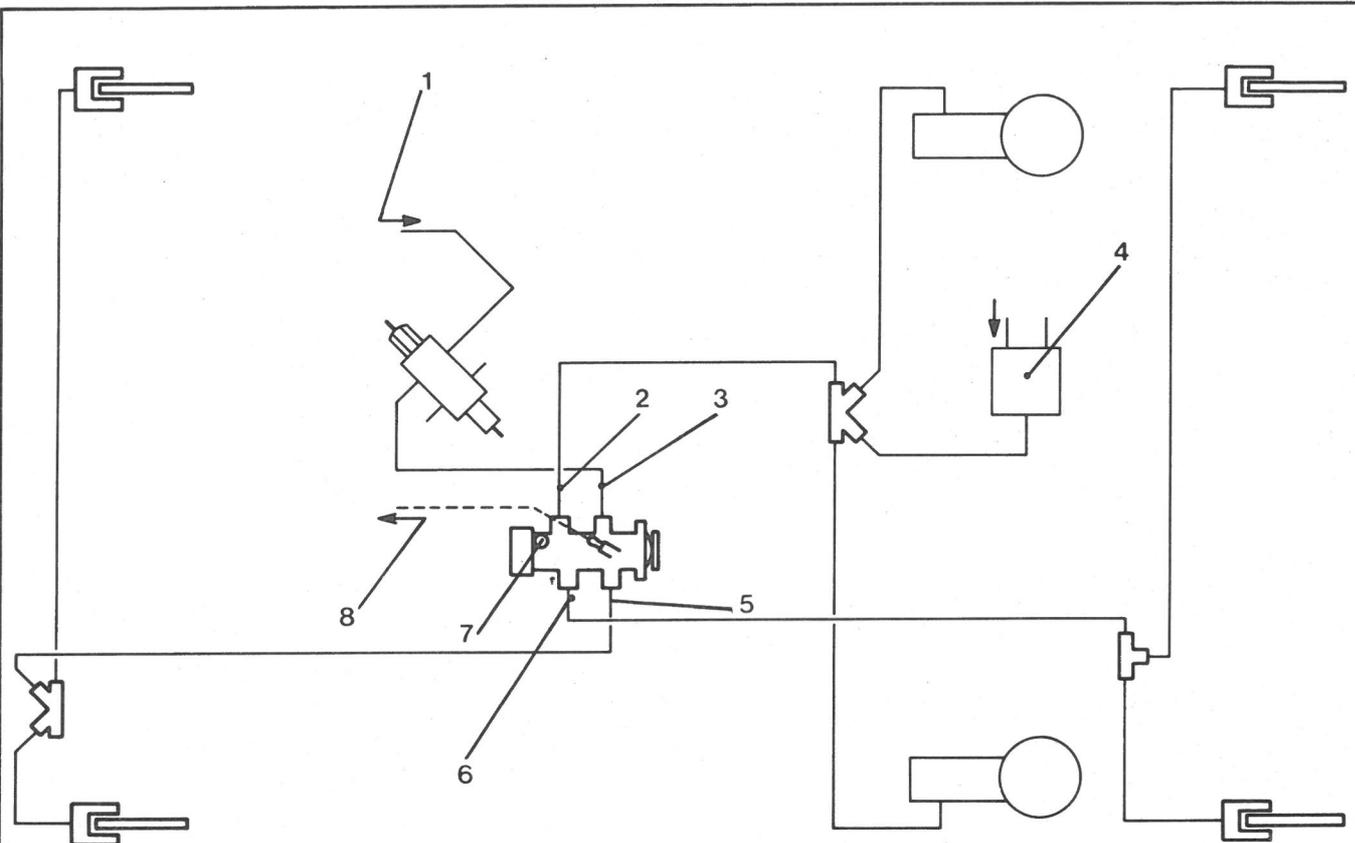
Front brake friction area : 140 cm²

CIRCUIT DIAGRAM OF THE BRAKING SYSTEM (Fig. I).

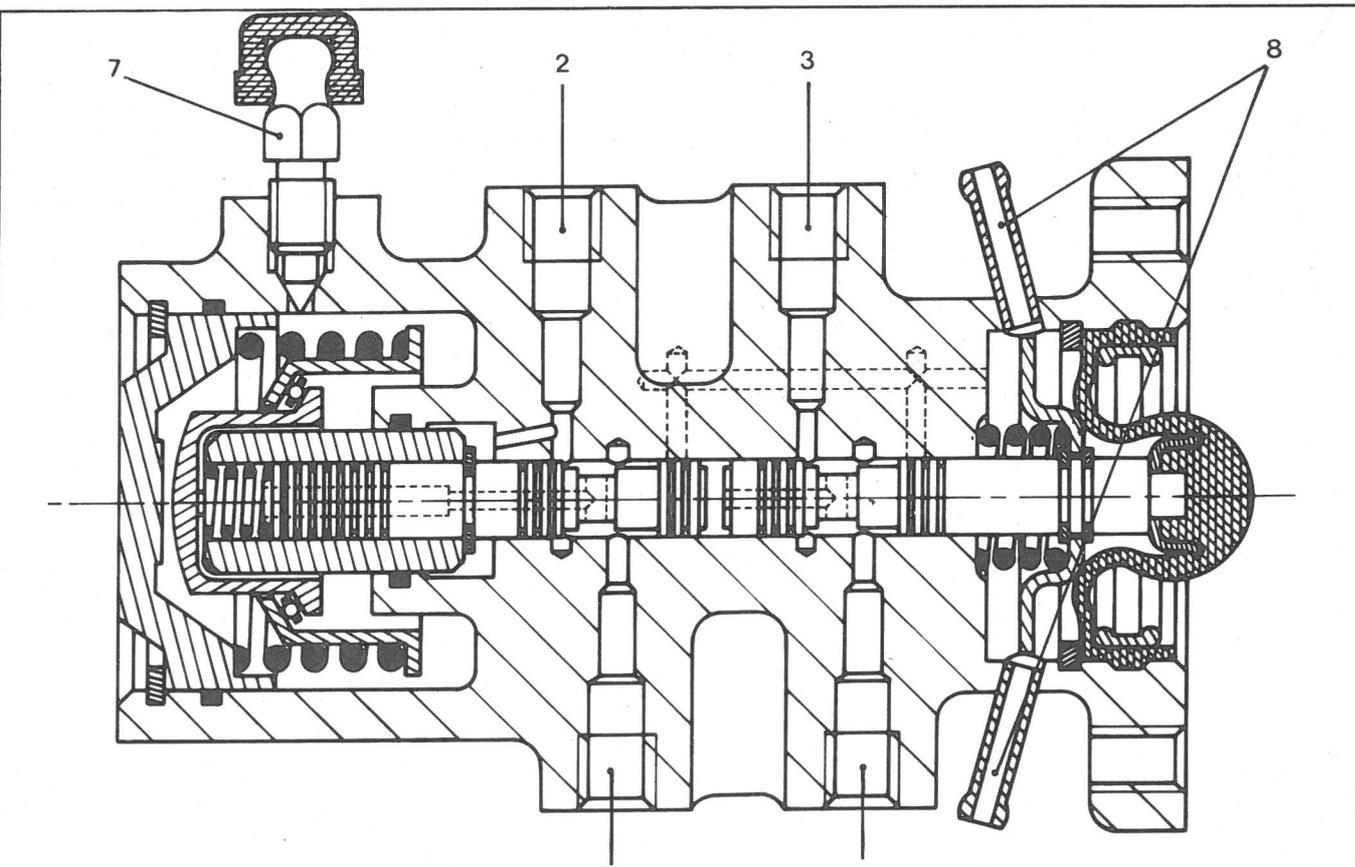
DIAGRAM OF THE COMPENSATOR-CONTROL VALVE (Fig. II).

KEY :

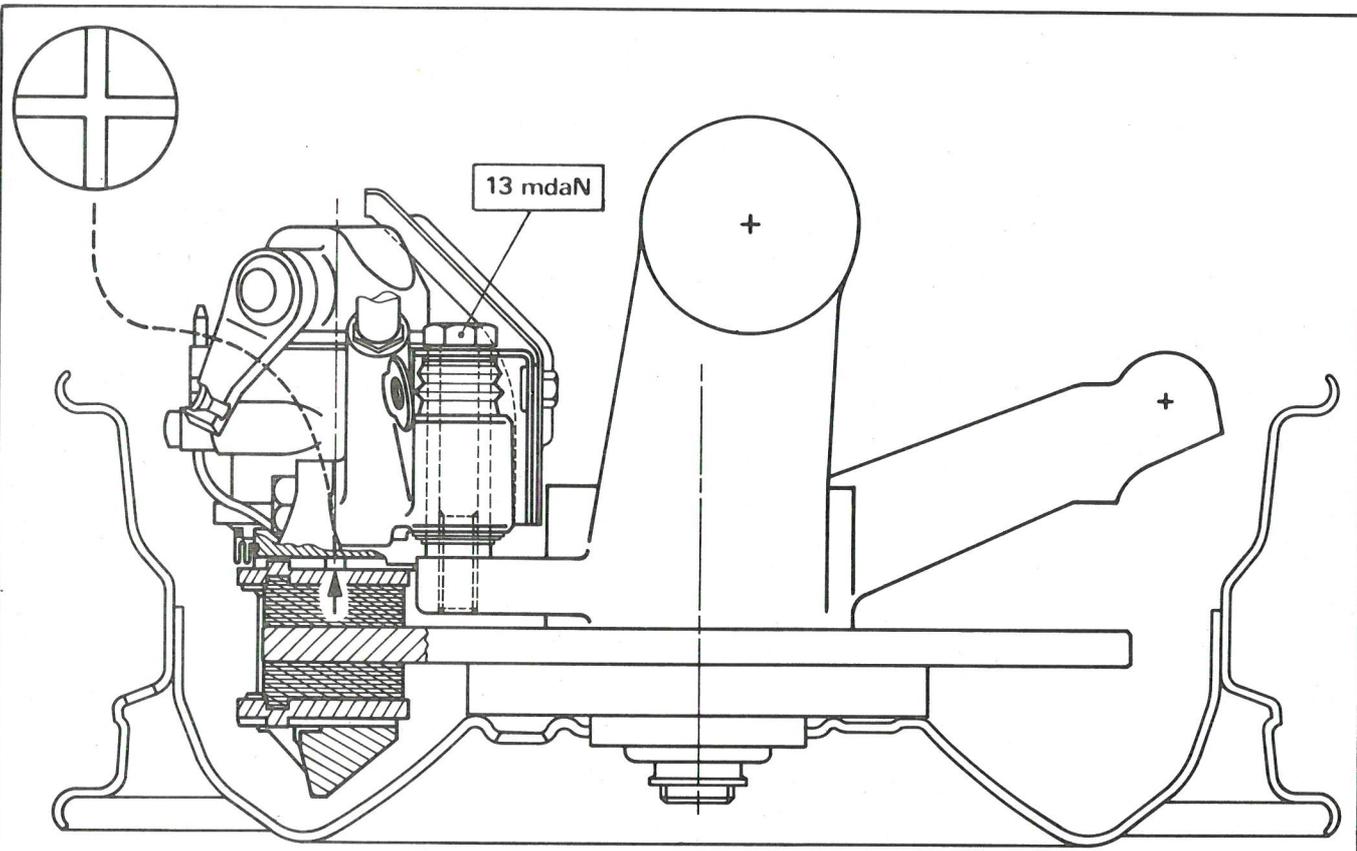
- 1 : High pressure source
- 2 : Rear suspension pressure
- 3 : High pressure supplying the front brakes
- 4 : Rear suspension height corrector
- 5 : Front brakes
- 6 : Rear brakes
- 7 : Compensator bleed screw
- 8 : Return to reservoir



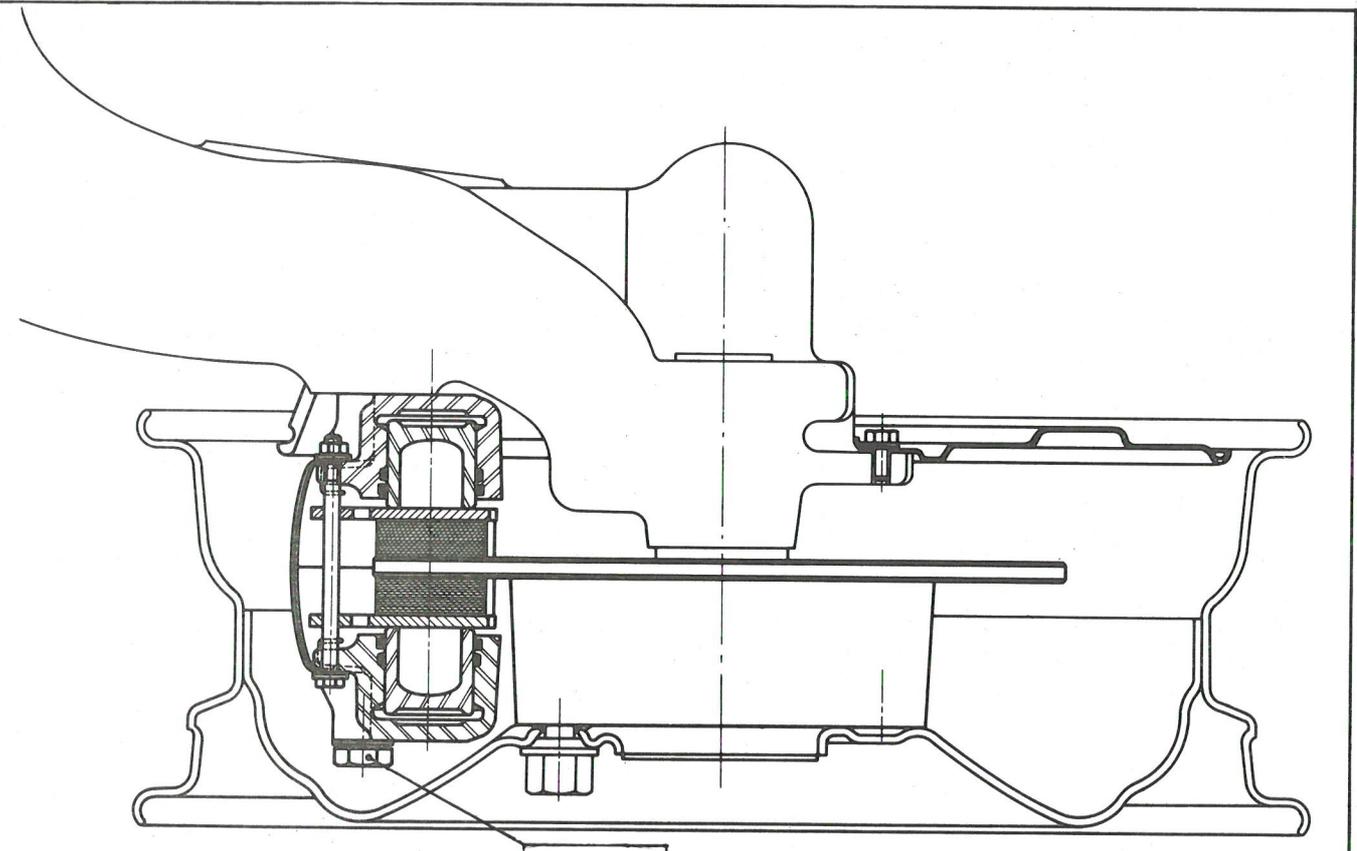
BX 45-7



BX 45-8



BX 45-1



BX 45-3

SPECIAL FEATURES

Main brake :

- Disc diameter :
- Disc thickness :
- Min. thickness after wear :
- Disc max. run-out (Checking a rear disc, see page 6)
- Diameter of the operating pistons :
- Area of one pad :
- Pad lining thickness :

	FRONT	REAR
- Disc diameter :	266 mm	224 mm
- Disc thickness :	10 mm	7 mm
- Min. thickness after wear :	7 mm	4 mm
- Disc max. run-out (Checking a rear disc, see page 6)	0.2 mm	0.2 mm
- Diameter of the operating pistons :	50 mm	30 mm
- Area of one pad :	35 cm ²	17 cm ²
- Pad lining thickness :	12.5 mm	13 mm

	FRONT	REAR
Type of linings	ABEX PAGID 349 FG	FERODO 2430

The front pads are fitted with wear indicator devices.

Replacing the front brake pads :

The piston withdrawal is obtained by exerting an axial pressure on the piston **while rotating it** (clockwise)
Fig. I. See Op. XB. 453-1.

Checking the run-out of a rear pad. Fig. I**Before carrying out the check, bring the disc in contact with the hub.**

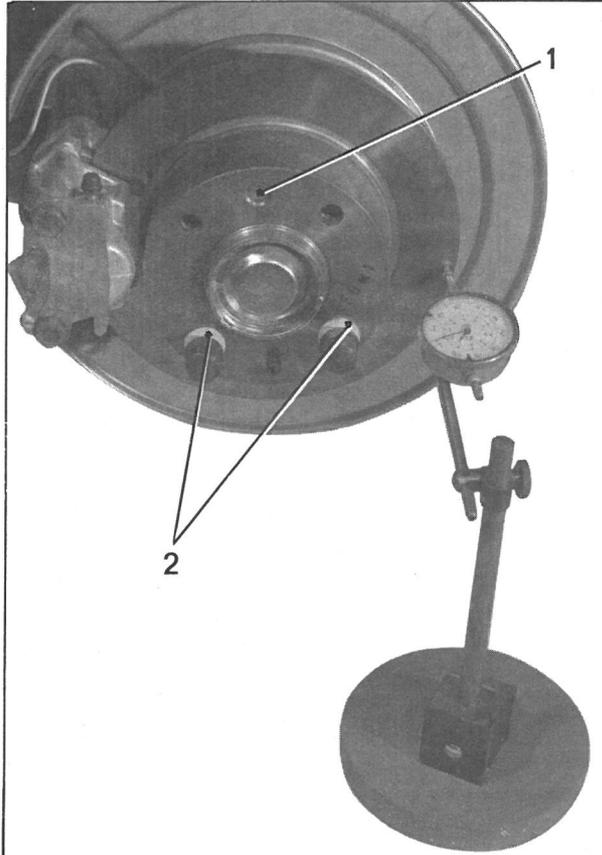
To obtain this condition, fit and tighten the two wheel bolts opposite to the disc securing screw (1) and insert two washers (2), dia = 13 mm, to keep the disc in contact with the hub.

Disc max. run-out : 0.2 mm.

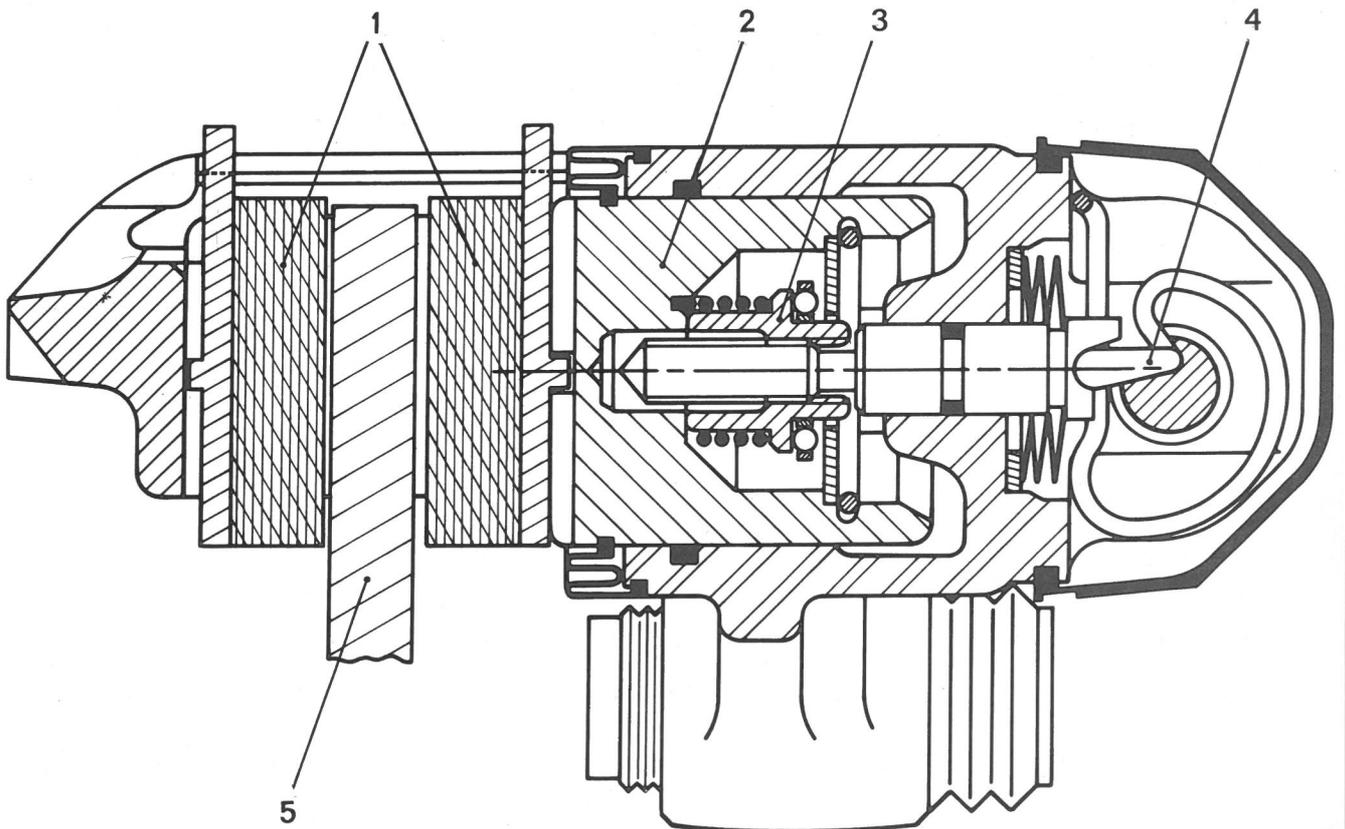
Handbrake : Fig. II

It acts upon the front wheels through a mechanism incorporated in the piston of the sliding caliper. This mechanism ensures an automatic take up of the handbrake travel.

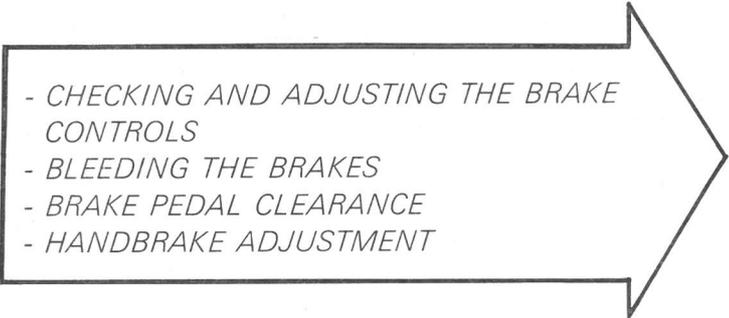
- 1 : Brake pads.
- 2 : Piston.
- 3 : Automatic take up of the handbrake travel.
- 4 : Control mechanism.
- 5 : Brake disc.



83-63



BX 45-2

- 
- CHECKING AND ADJUSTING THE BRAKE CONTROLS
 - BLEEDING THE BRAKES
 - BRAKE PEDAL CLEARANCE
 - HANDBRAKE ADJUSTMENT

BLEEDING THE BRAKES

Bleeding the front brakes :

This operation must be carried out at nil pressure so as to avoid emulsification of the fluid, and consequently, possible formation of air locks in the circuit.

With the engine stopped, undo the pressure regulator relief screw and connect the caliper bleed screws to the reservoir, using transparent tubes.

Bleeding the brakes :

Keep the brake pedal depressed and loosen the bleed screws.

Start the engine, tighten the pressure-regulator relief screw and allow the fluid to flow until no air bubbles are observed. Then, tighten the bleed screws, release the brake pedal and remove the bleed tubes.

Bleeding the rear brakes:

The rear brakes should be bled under pressure, since the rear suspension is not supplied when the circuit is depressurized (*see braking circuit Op. BX. 453-00*).

Chock the rear of the vehicle, wheels hanging free, and remove the wheels.

Connect a length of transparent tube to each bleed screw, with the free end of the tube placed in a clean container.

Let the pressure drop in the rear suspension and set the height control lever to the « *high* » position.

Depress the brake pedal and start the engine.

Slightly undo the bleed screws and allow the fluid to flow until no more bubbles are observed.

Tighten the bleed screws, fit the wheels and lower the vehicle to the ground.

Bleeding the compensator-control valve (bleed screw (3), Fig. I and II).

When removing and fitting a brake control valve, it is necessary to bleed both the compensator and the brakes. This operation **should be carried out under pressure**, that means with the rear suspension supplied, as for the rear brake bleeding.

Adjusting the pedal clearance, Fig. I :  R.P. No. 2235

Tighten screw (1) so as to obtain a clearance $J = 1$ to 3 mm between the pedal and the control valve.

Fig. II : R.P. No. 2235 

Tighten screw (1) so as to obtain a clearance $J = 0,1$ mm to 1 mm between the pedal and the control valve.

Adjust the stoplamp switch, the stoplamps should light up as soon as the pedal comes in contact with the brake control valve.

Use nuts (2) to obtain this condition.

Adjusting the handbrake, Fig. III

In no case the handbrake travel should be adjusted through cables.

A system integrated in the caliper piston enables the automatic take-up to start operating when the handbrake travel reaches 12 to 15 notches.

When replacing the handbrake cable, adjust it as indicated below :

Depress the brake pedal to bring the pads in contact with the discs, release the pedal.

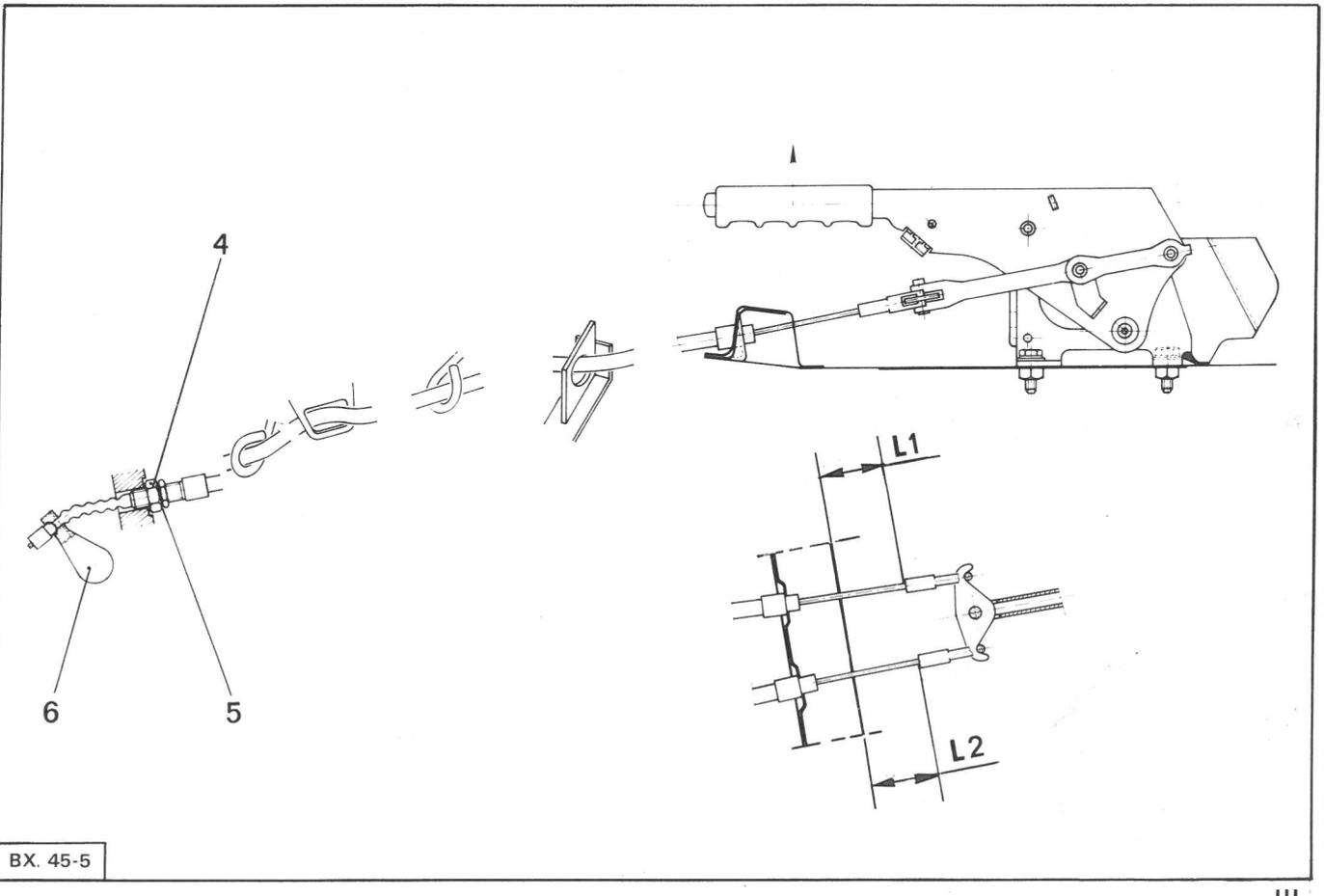
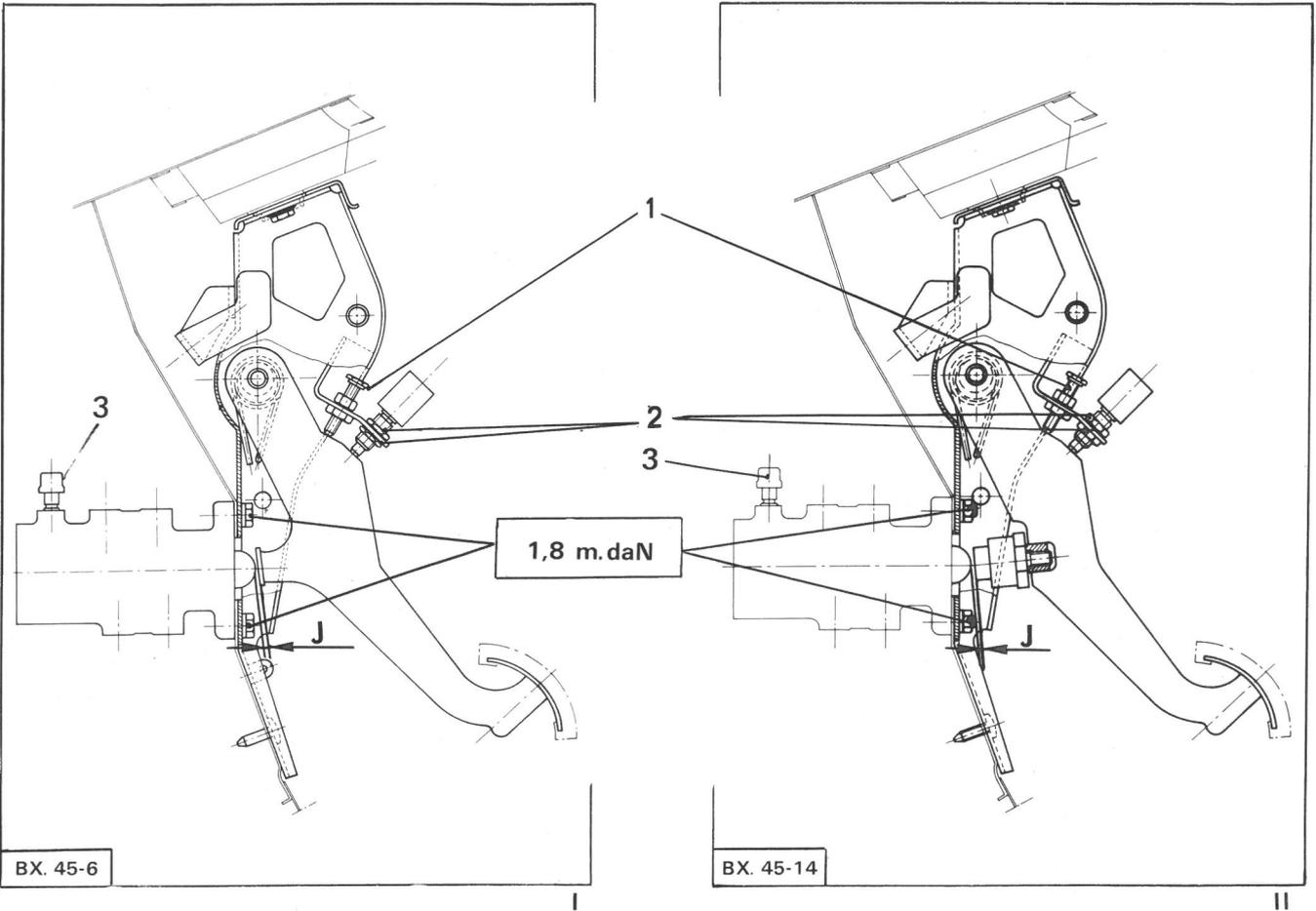
Set the handbrake to the 4th notch and act upon nuts (4) to bring levers (6) in contact with the cam.

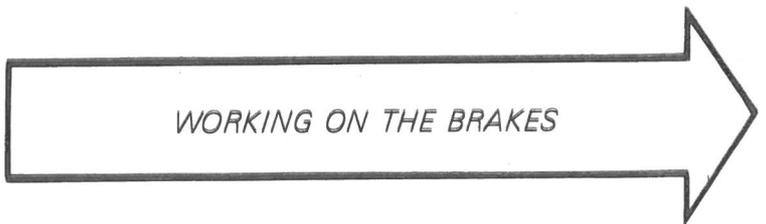
Make sure that $L1 = L2$, within 1.5 mm max.

When the handbrake is released, the pads should not come in contact with the disc, whatever the steering angle.

Lock the lock-nuts (5).

Actuate the handbrake several times, then check that the above conditions are observed.





WORKING ON THE BRAKES

I. REPLACING THE FRONT BRAKE PADS.

REMOVAL.

Loosen the front wheels.

Chock the front of the vehicle, wheels hanging free.

Remove the wheels.

Disconnect the leads (1) of the pad warning device :
Fig. I.

Extract pin (2).

Remove Fig. II :

Locking plate (3), slightly press the brake pads at « a » to facilitate the plate removal.

Remove the brake pads.

FITTING.

Push the piston backwards : Fig. III and IV

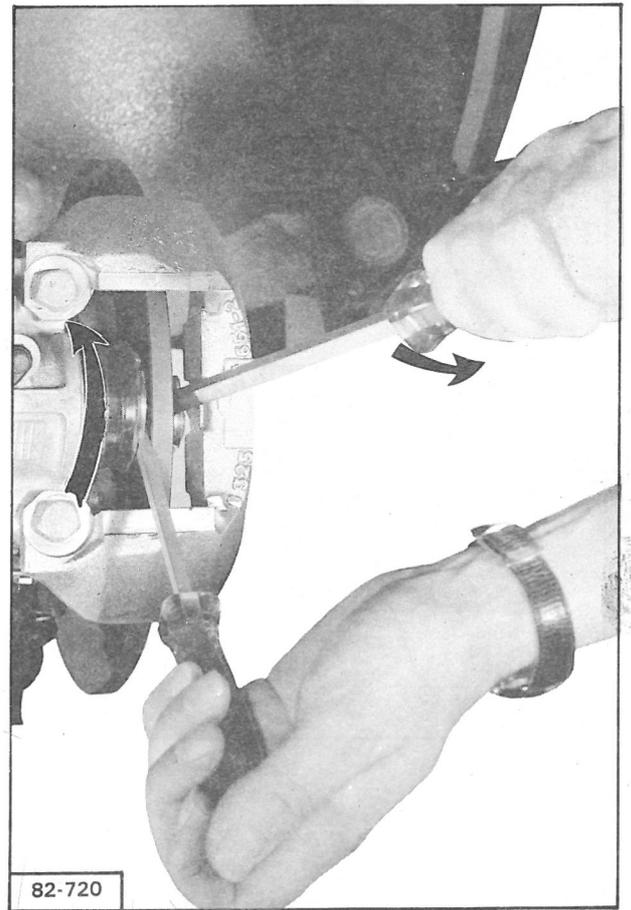
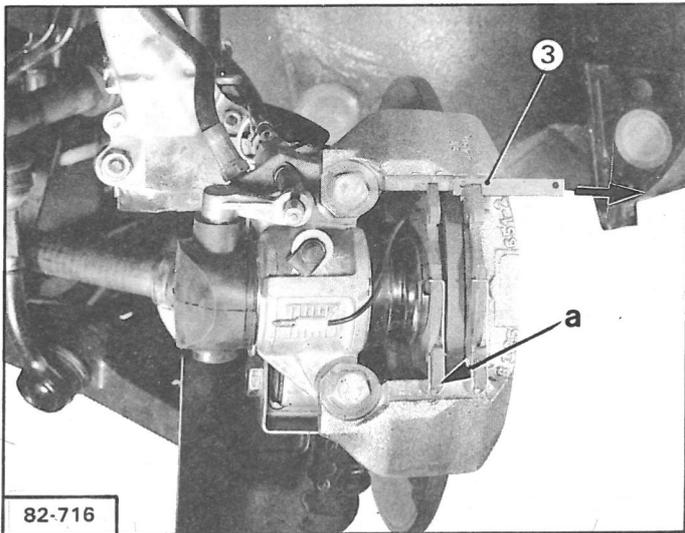
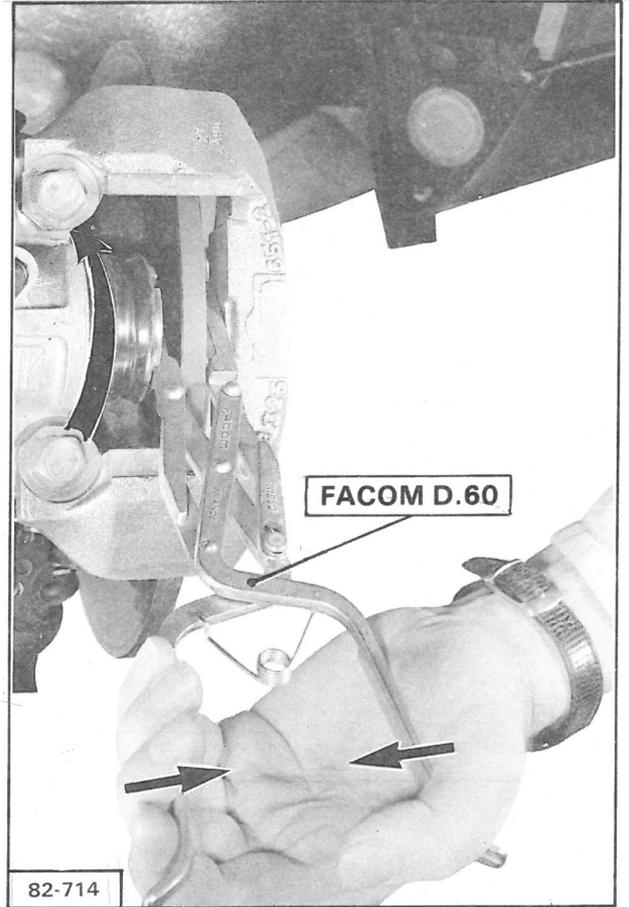
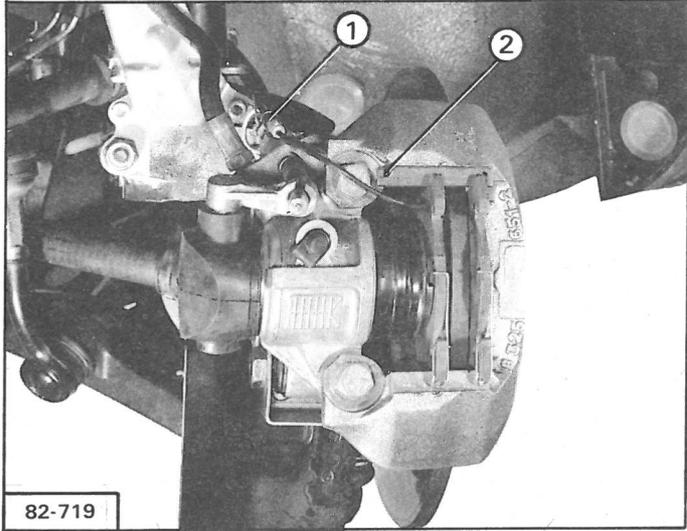
In order to enable the piston to be moved backwards, **rotate it** (clockwise) while exerting **an axial pressure** on it.

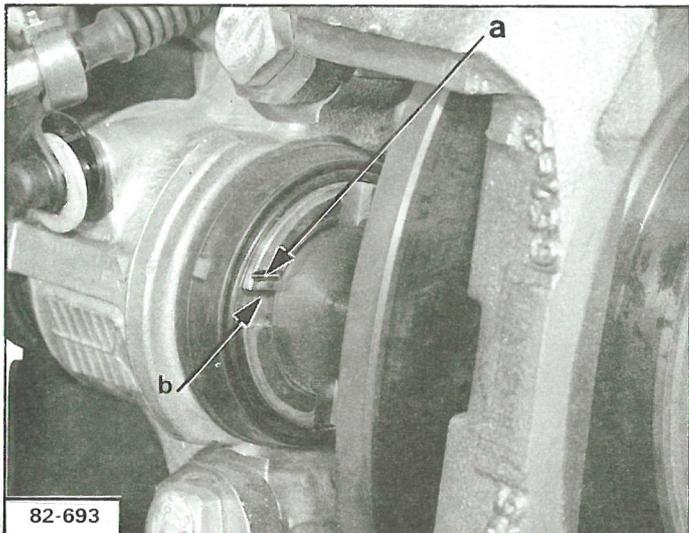
For this operation, use the FACOM D 60 pliers.

Yet, this operation can be carried out with two screwdrivers.

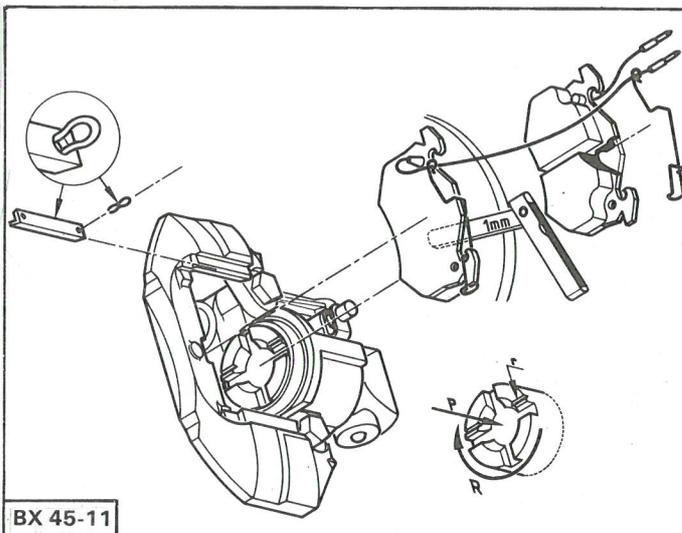
In this case, the screwdriver used for rotating the piston should, without fail, be a 7 mm square screwdriver.

The second screwdriver used for exerting the axial pressure should never come into contact with the disc friction area.

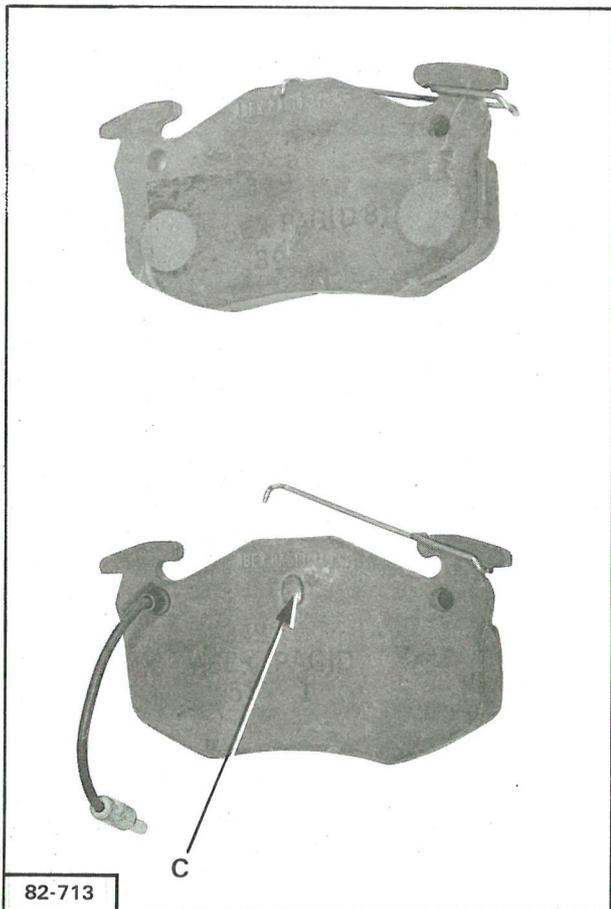




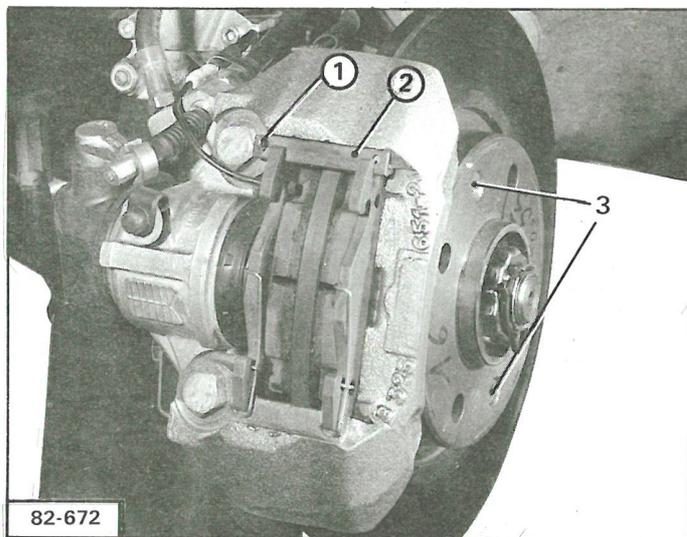
82-693



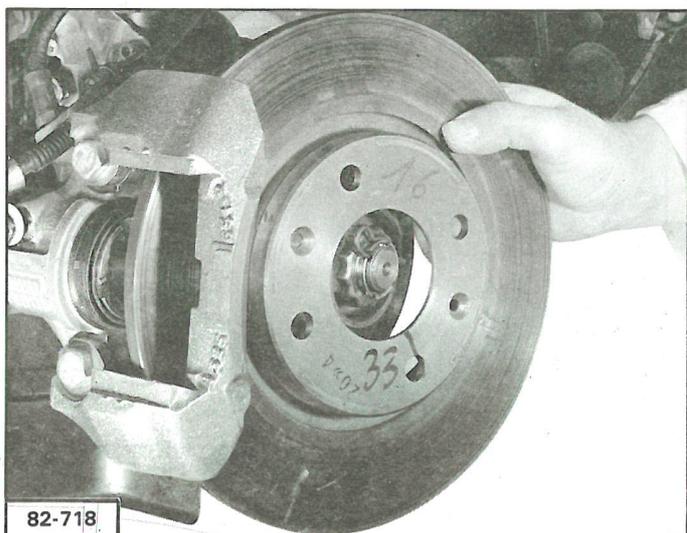
BX 45-11



82-713



82-672



82-718

II

III

IV

V

Orientate the piston so as to set identification mark « a » horizontally, above or below piston groove « b », Fig. I.

Fit the springs on the pads : Fig. II

The four pads should always be replaced at the same time to keep an even distribution of the braking.

Fit the pads : Fig. I and II

Make sure that peg « c » is correctly inserted in piston groove « b ».

After fitting the new pads, the free-play between the disc and the pad should be 1 mm min. If it is not, push the piston backwards, Fig. III.

Fit, locking plate (2), Fig. III and IV.

Fit pin (1).

Connect the leads of the wear warning device.

Fit the wheels and lower the vehicle to the ground.
Tighten the wheel securing bolts.

Tighten the pressure regulator release screw.

II. REMOVING AND FITTING A FRONT BRAKE DISC.

REMOVAL.

Remove the brake pads (*see previous chapter*).

Remove : Fig. IV and V

- screws (3),
- brake disc.

FITTING.

Reverse the above procedure.

III. REMOVING AND FITTING A FRONT BRAKE UNIT.

REMOVAL.

On the relevant side :

Loosen the wheel.

Chock the vehicle, wheels hanging free.

Remove the wheel.

Loosen the pressure regulator release screw.

Set the height control to the « low » position.

Fig. I and II :

Uncouple the supply pipe (1), *blank off the pipe using a plastic cap.*

Free brake flexible hose (5) by pulling securing plate (6), then release it from lug (4).

Disconnect leads (3) of the pad wear warning device.

Unhook cable (2) controlling the handbrake.

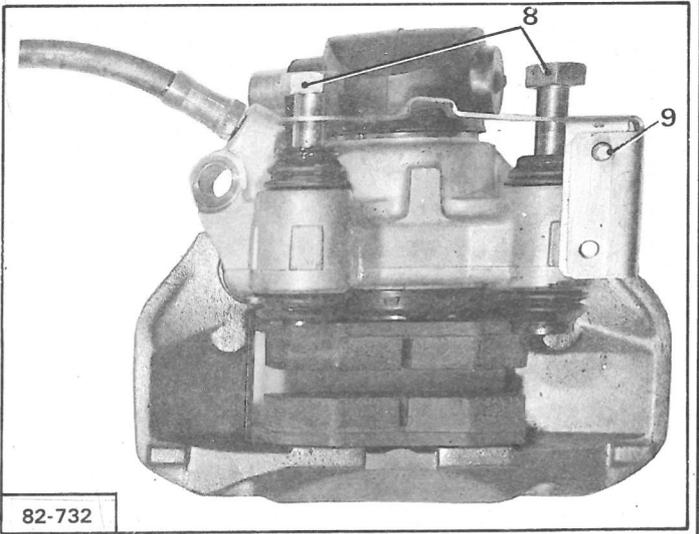
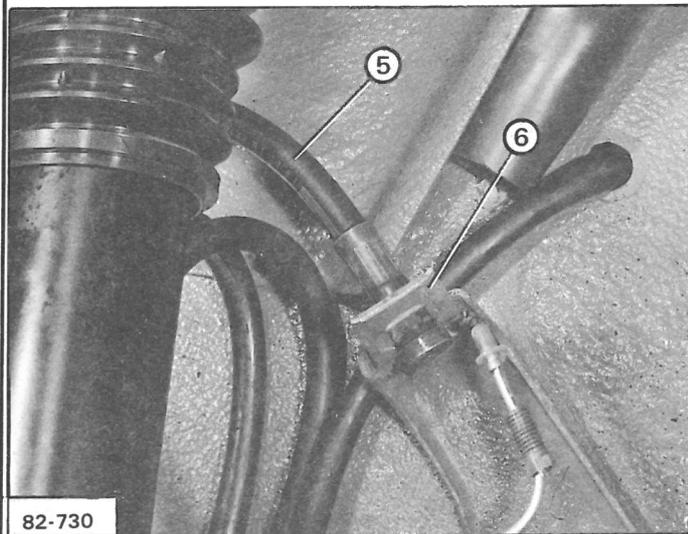
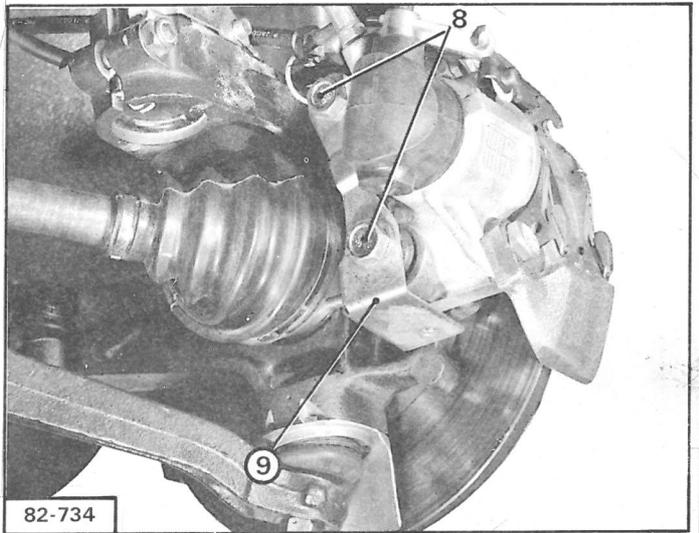
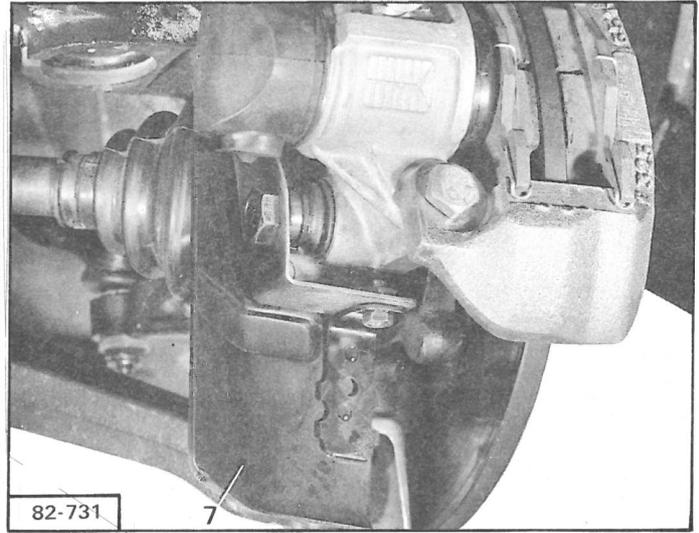
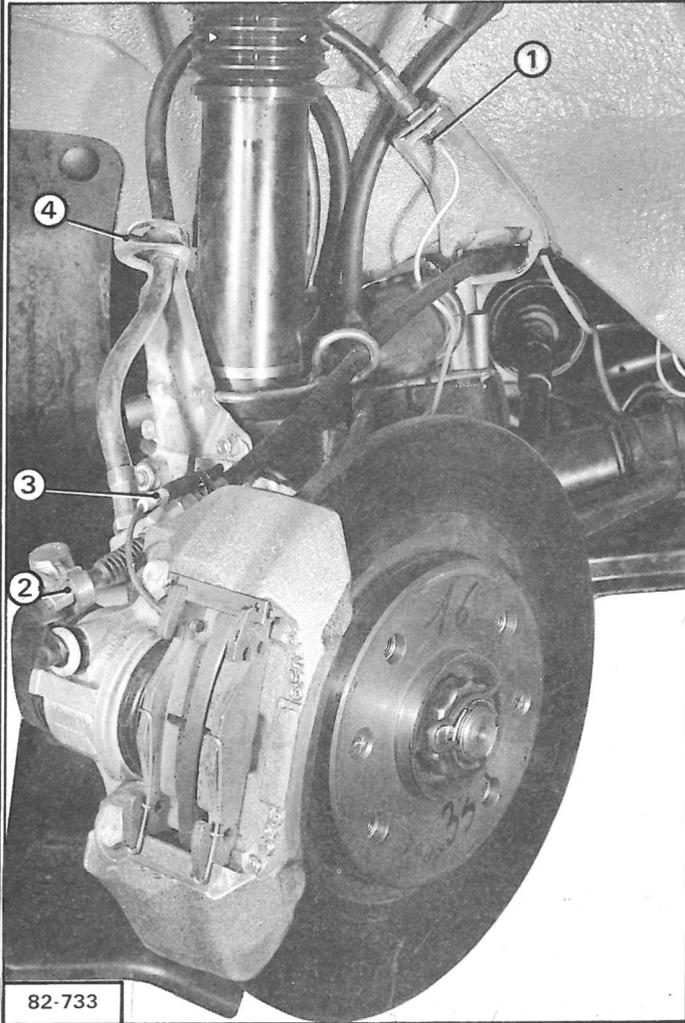
Remove deflector (7) : **Fig. III;**

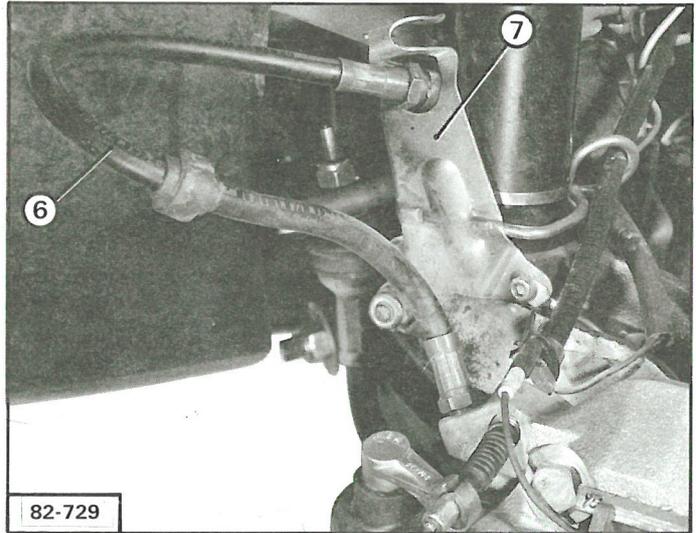
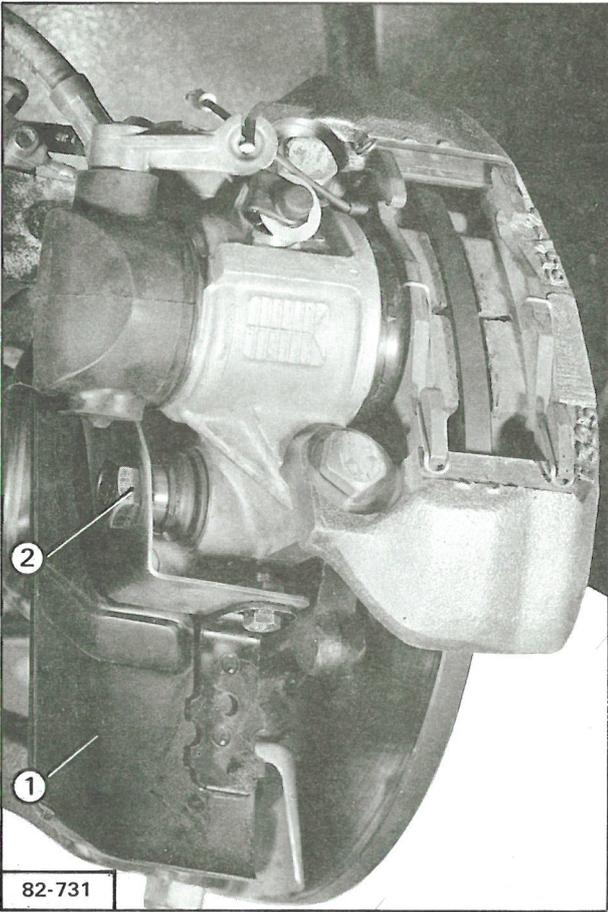
Remove the brake unit (*screw 8*) : **Fig. IV.**

FITTING.

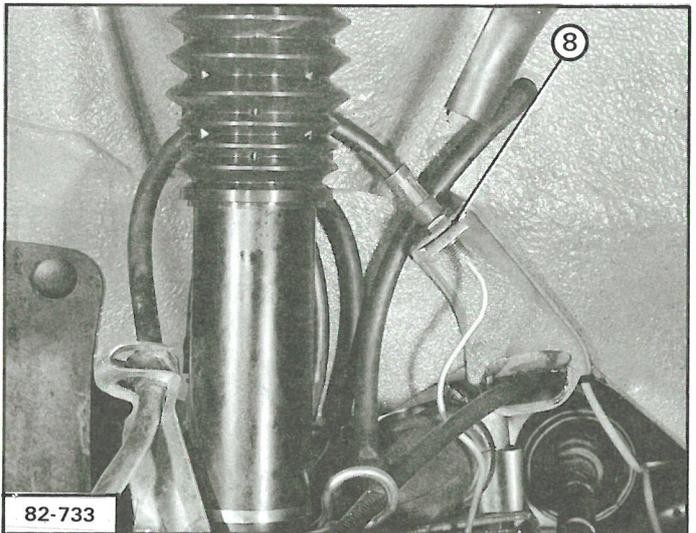
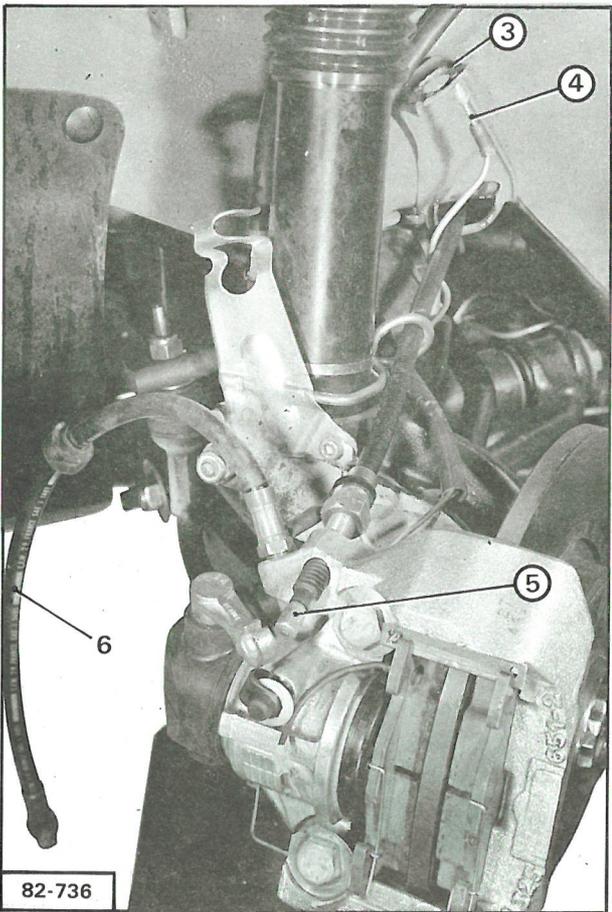
If the brake unit has not been previously removed, the piston should be pushed back into its housing (*see chapter : I*).

Fit screws (8) on the unit after having inserted plate (9) : **Fig. V.**





III



IV

II

Fit the brake unit, **Fig. I**.
Tighten screws (2) to **13 m.daN**.

Fit deflector (1).

Hook cable (5) controlling the handbrake, **Fig. II**.

Connect the leads of the pad wear warning device.

Engage brake flexible hose (6) in bracket (7), **Fig. II**, position it on square plate (3) **Fig. II**, then fix it with securing plate (8), **Fig. IV**.

*Remove the protective cap and **couple** supply pipe (4) (new sleeve-seal).*

On the relevant side :

Bleed the brakes (*see Op. XB. 453-0*).

Fit the wheel and lower the vehicle to the ground.

Tighten the wheel securing bolts.

IV. REPLACING THE REAR BRAKE PADS :

Fig. I, II and III

REMOVAL.

Loosen nut (1) and remove plate (3).

Slightly push each pad at « a » to allow their removal.

Remove nut (1), spindle (5), spring (6) and the brake pads.

Drop some LHM on the pistons after having cleaned them with petrol.

Fit the previous pads and spindle (5), then press at « a » to push the pistons fully home.

Remove the pads, spindle (5) and clean the pad housing.

The four pads should always be replaced at the same time to keep an even distribution of the braking.

FITTING.

Fit the pad at wheel end and insert spindle (5).

Fit the second pad and spring (6).

Drive in spindle (5) and fit nut (1).

Observe the fitting direction of spring (6),

Fig. II.

Fit plate (3). Tighten nut (1).

V. REMOVING AND FITTING A REAR BRAKE DISC.

Fig. IV and V

REMOVAL.

Remove the brake pads (*see previous chapter*).

Fit spindle (5) and tighten nut (1) in order to bring the two half-calipers in contact.

Loosen screw (4).

Remove screw (7).

Remove the brake disc by slightly raising the caliper.

FITTING.

Reverse the above procedure.

Screw tightening torque (4) : 4.5 m.daN (face and threads greased).

VI. REMOVING AND FITTING A REAR BRAKE UNIT.

REMOVAL Fig. I

Loosen the pressure release screw of the pressure regulator and set the height control lever to the « low » position.

Uncouple pipe (2).

Remove screws (4) and the unit.

FITTING.

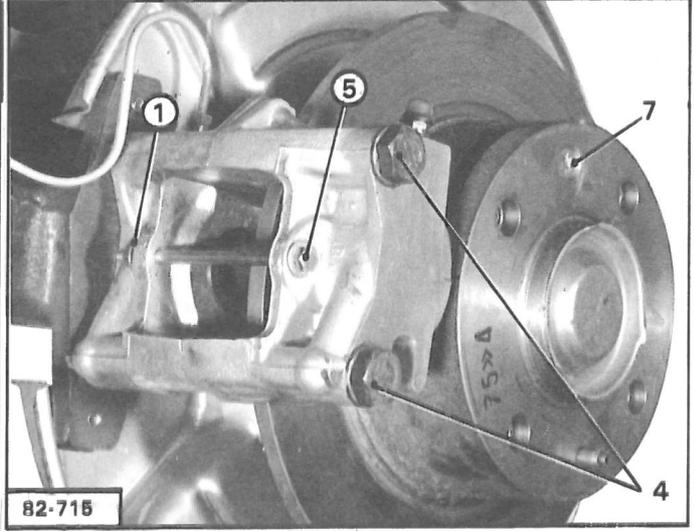
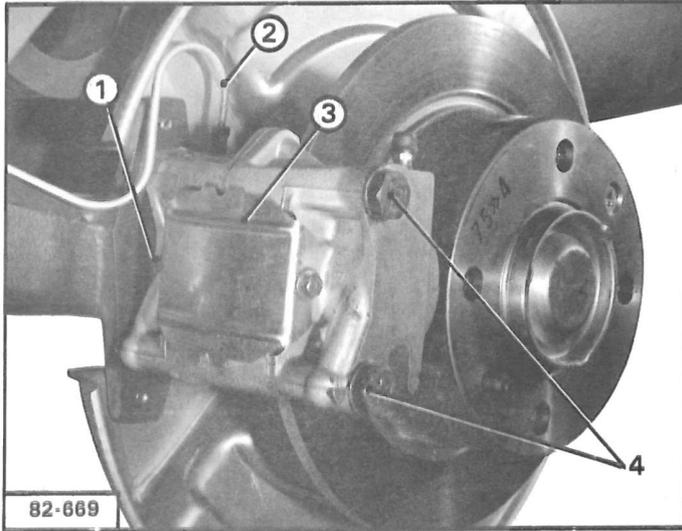
Offer up the unit to the disc.

Couple pipe (2) fitted with the *new sleeve seal*.

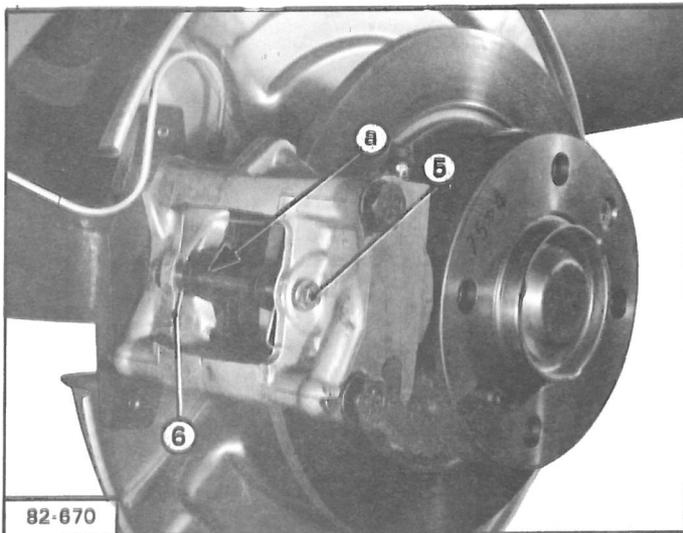
Fit and tighten screws (4) to **4.5 m.daN** (*face and threads greased*).

On the relevant side :

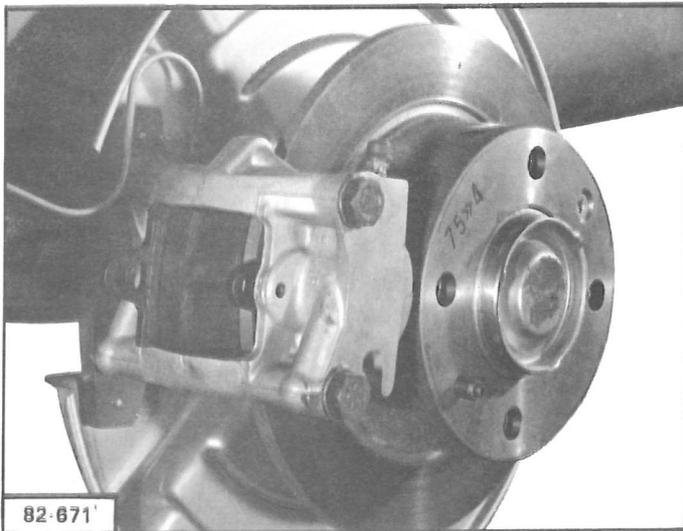
Bleed the brakes (*see Op. XB. 453-0*).



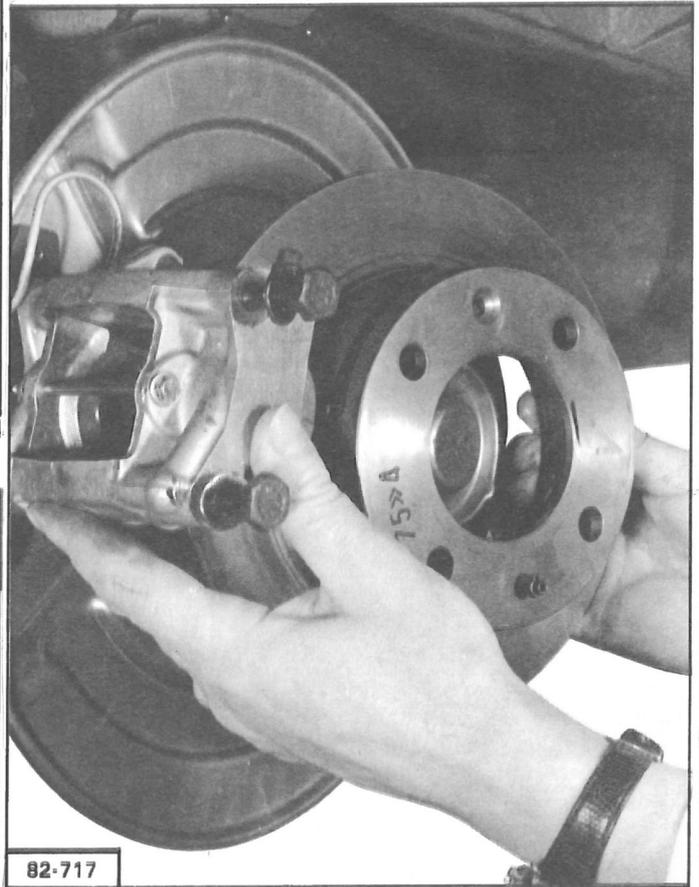
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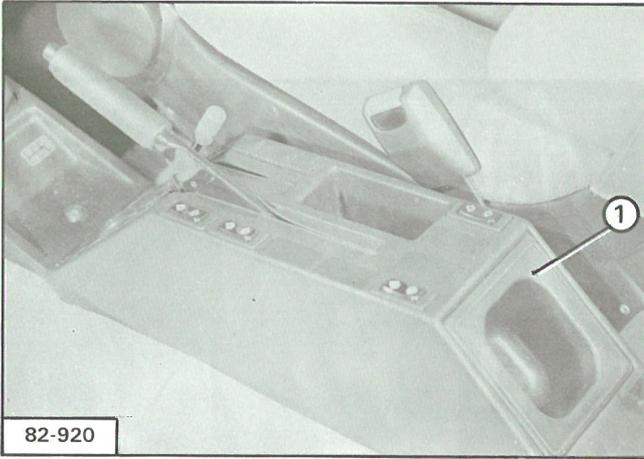
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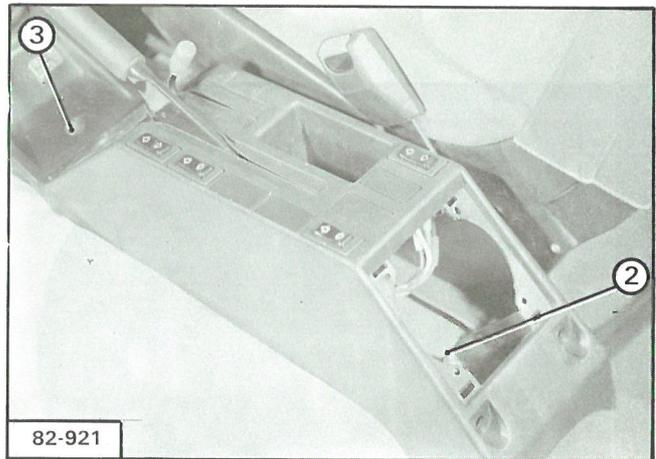
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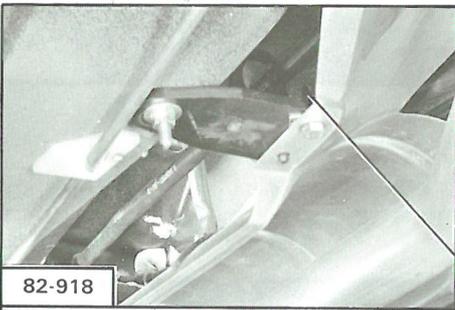
V



82-920



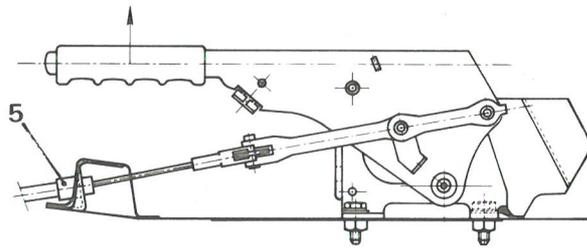
82-921



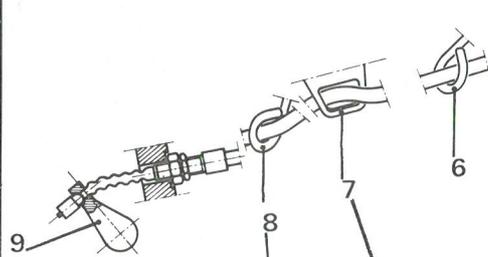
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III

4



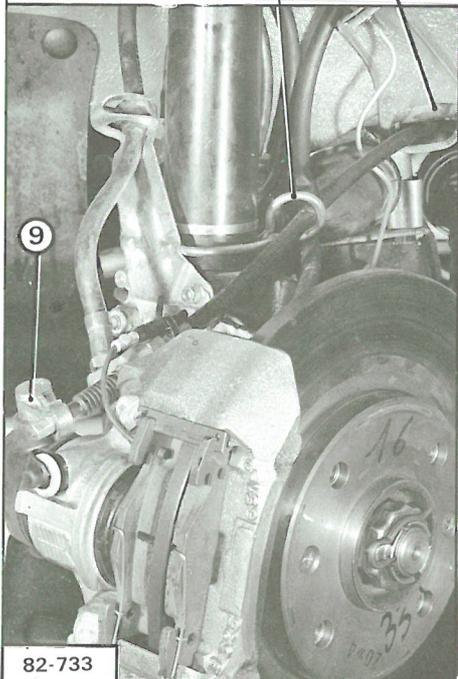
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6

7

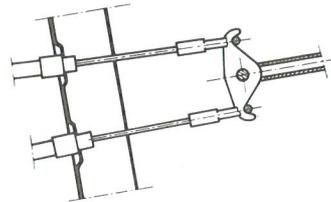
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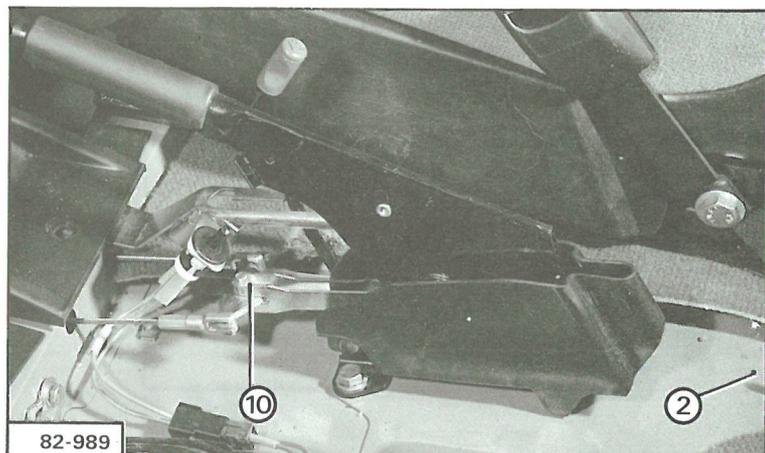
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V

BX. 45-5



IV



82-989

VI

VI. REMOVING AND FITTING A HANDBRAKE CABLE.

REMOVAL.

Fig. I and II :

Remove cubby hole (1) from the console in order to reach the rear fixing point (2).
Remove the console, loosening screws (2) and (3).

Fig. IV and V :

Unhook the handbrake cable from link-rod (9).

Fig. IV and VI :

Unhook the cable from compensator (10).
Remove the handbrake cable.

FITTING.

Insert the handbrake cable, taking care to follow its route : Fig. III, IV, V and VI.

- (8) cable guide on swivel,
- (7) cable guide on wheelarch,
- (6) cable guide on scuttle panel,
- (4) cable guide on exhaust screen.

Hook the cable on compensator (10).

Make sure that sheath stop (5) is correctly positioned in its housing.

Insert the cable in its guide located on the swivel and couple it to link-rod (9). *Slightly lubricate the area of the cable end pieces coming into contact with the link-rod and the compensator.*

Adjust the handbrake.

(See Op. XB. 453-0).

Fit and secure the console.

Fix the cubby-hole (1) on the console.

Smear the cable guide (7) on wheelarch with grease.

VII. REMOVING AND FITTING A COMPENSATOR-CONTROL VALVE

This operation presents no particular difficulty.

Yet, it is better to mark down the pipes before uncoupling them, if they are not, it will be necessary to look for their source in order not to reverse the connection.

- 1 : High pressure supply from the security valve.
- 2 : Rear suspension pressure inlet from the 4-way union of the rear suspension.
- 3 : Rear brake supply.
- 4 : Front brake supply.

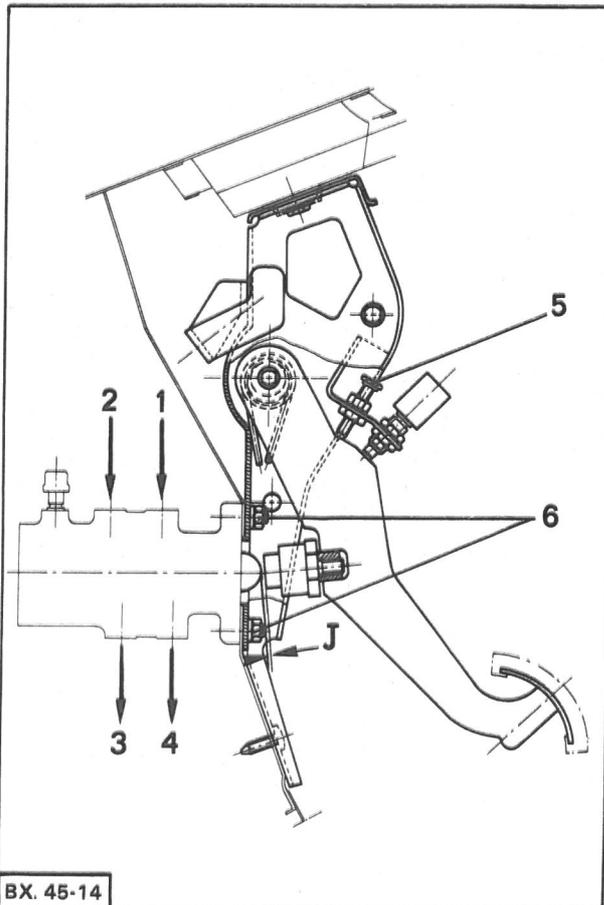
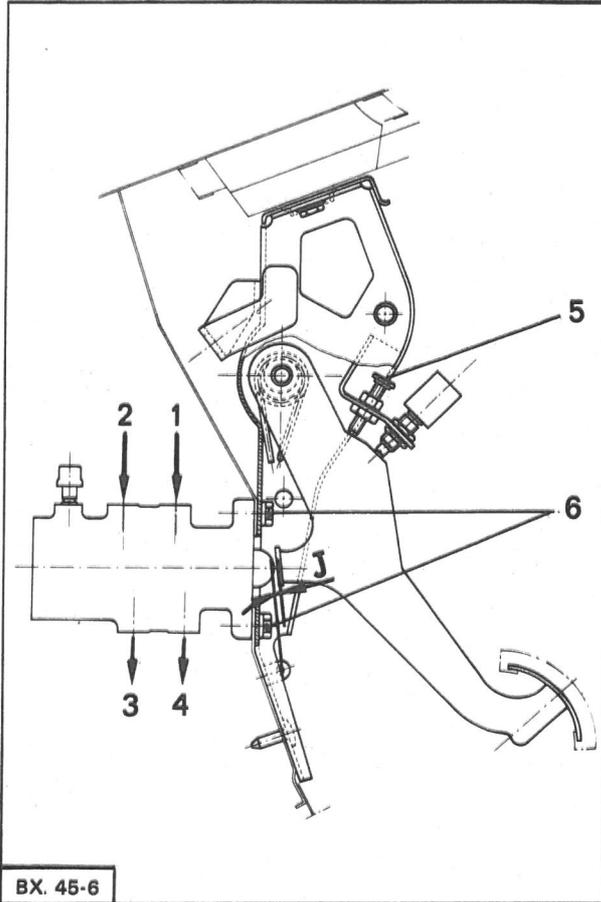
Screw or nut (6) tightening torque : 1,8 m.daN.

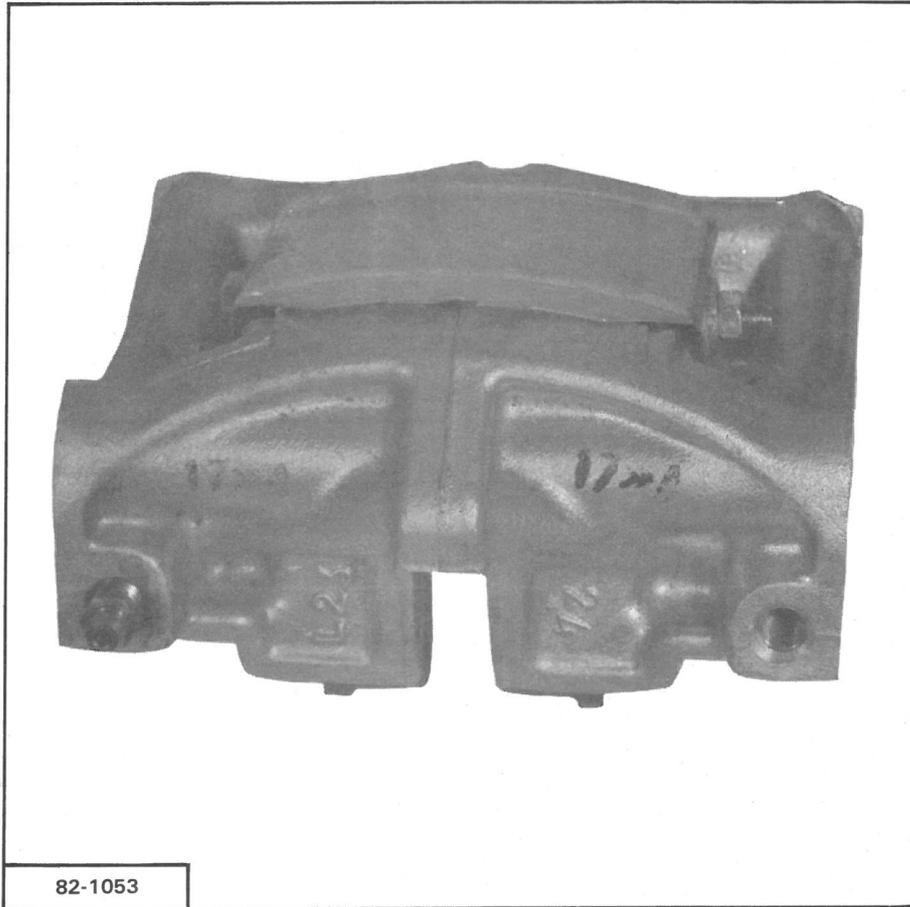
Check :

- R.P. Organization No. 2235, that the free-play J is comprised between 1 and 3 mm, Fig. I.
- R.P. Organization No. 2235, that the free-play J is comprised between 0.1 and 1 mm, Fig. II.

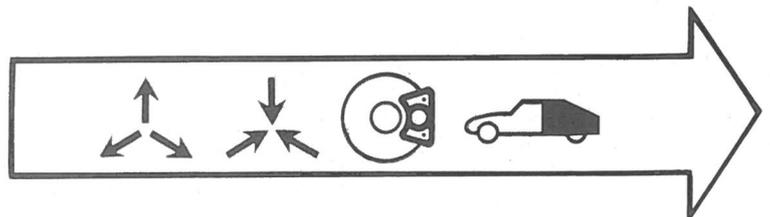
If necessary, use screw (5) to obtain this free-play.

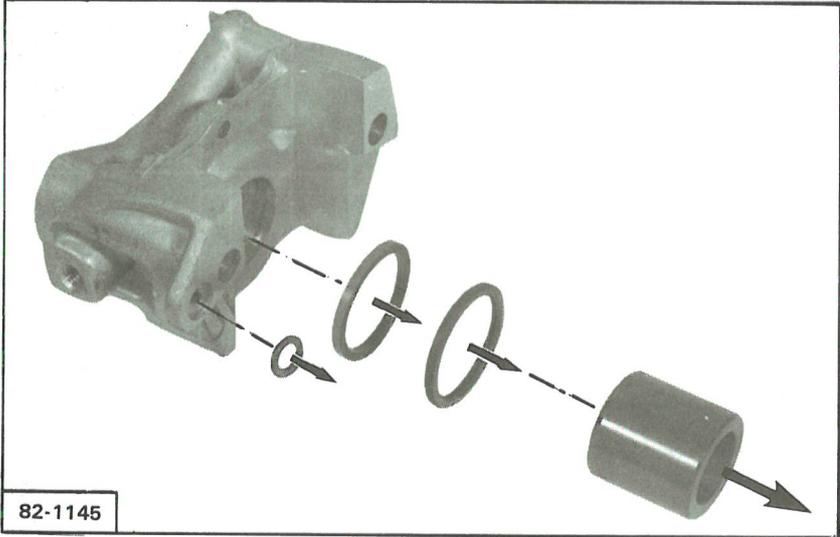
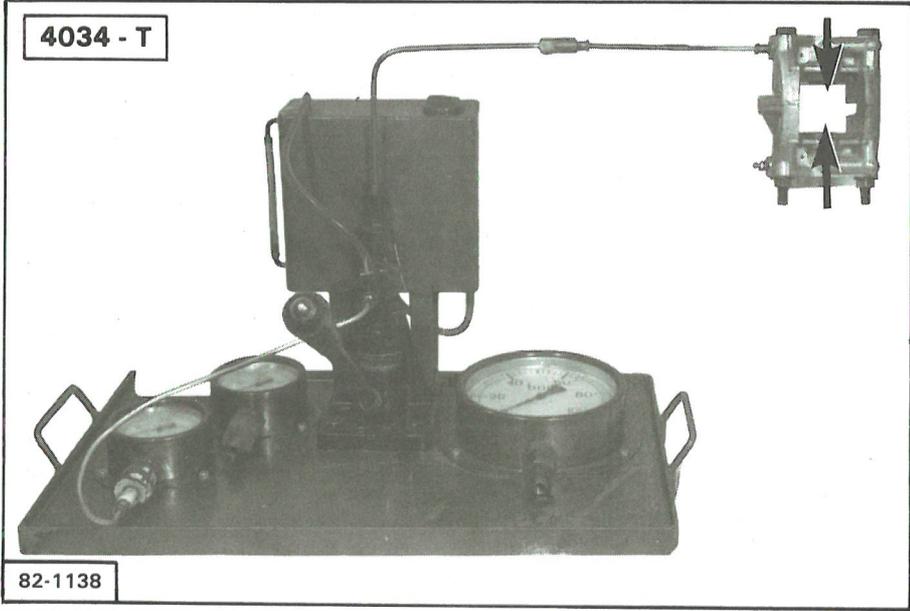
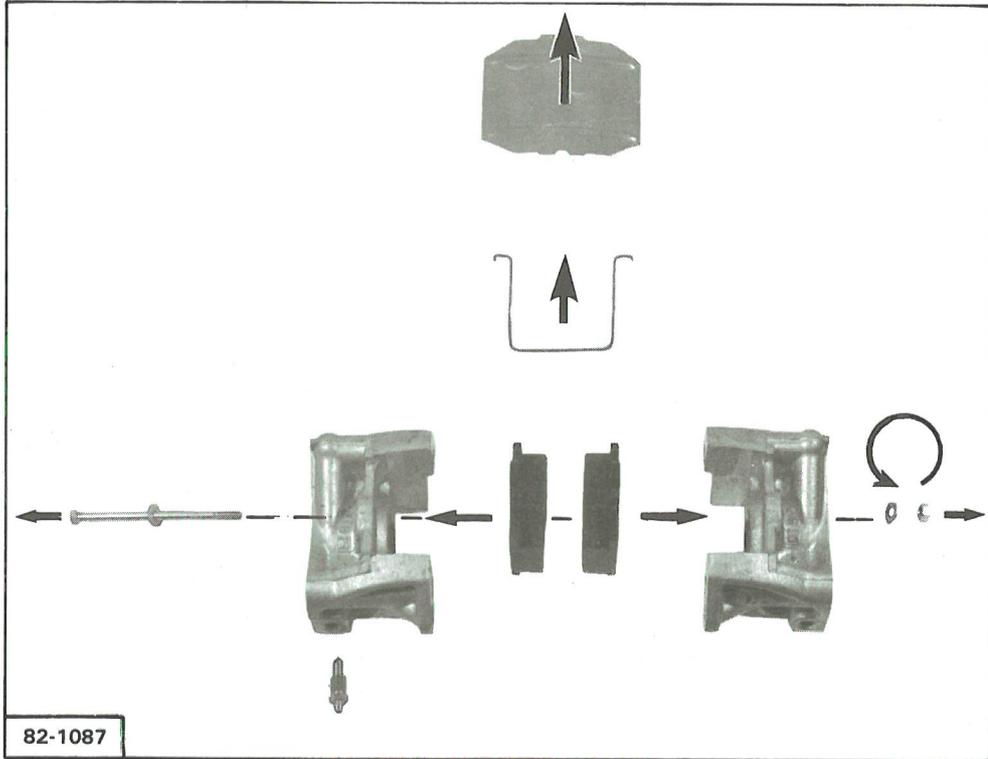
Carry out the bleeding operation (see Op. 453-0).

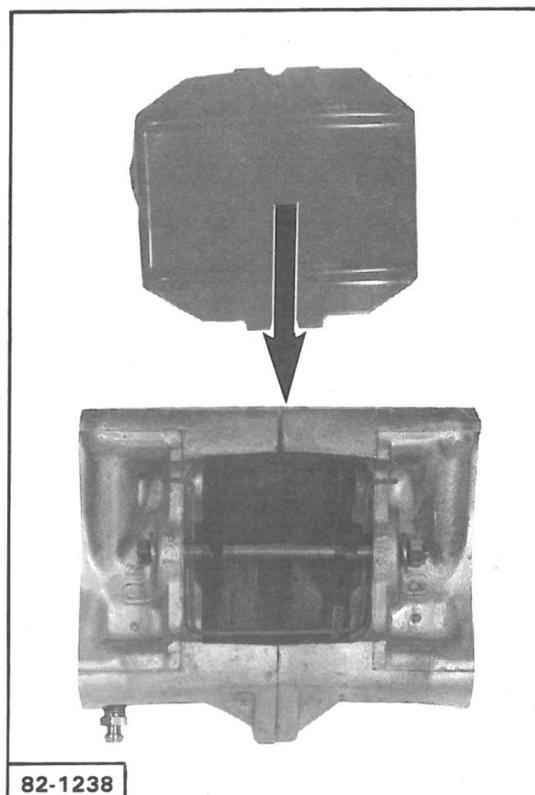
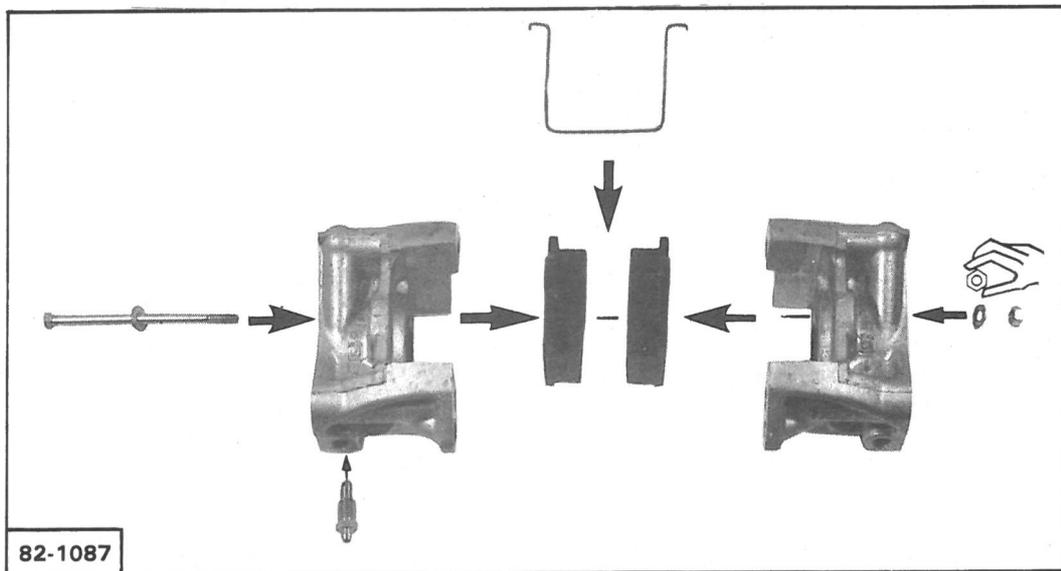
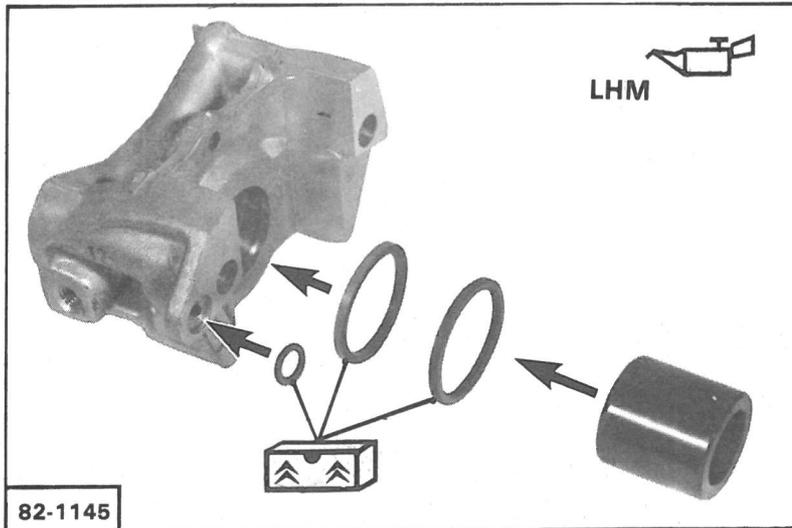




82-1053







Operation number	DESCRIPTION
XB. 510-000	Electrical installation, general outlines
XB. 510-00	Arrangement of the electrical installation
XB. 520-1	Replacing an instrument panel and a switch
XB. 653-00	Characteristics of the radio equipments
BX and BX.14 (1360 cc engines)	
XB.14 510-00	Arrangement of the electrical installation
XB.14 532-00	Charging circuit characteristics and checks
XB.14 533-00	Starter motor characteristics and checks
XB. 14 533-1	Starter motor removal and fitting
BX.16 (1580 cc engines)	
XB.16 510-00	Arrangement of the electrical installation
XB.16 532-00	Charging circuit characteristics and checks
XB.16 532-1	Regulator removal and fitting
XB.16 533-00	Starter motor characteristics and checks

ELECTRICAL INSTALLATION, GENERAL OUTLINES

PRESENTATION :

The electrical operations comprise the following :

- A wiring diagram
- A circuit diagram
- A list of components and wiring harnesses
- A bulb and fuse table
- Details on complex equipment
- Any options.

READING THE DIAGRAMS :

The wiring diagram indicates the layout of the leads and the connecting blocks as well as the approximate location of the components on the vehicle.

The circuit diagram presents the various circuits in a functional way, which can be very helpful when trying to find out the cause of a malfunction in the electrical system. When a unit is connected to several circuits, its various sections are shown in « exploded » form and located along different lines.

Switches are shown at rest, with vehicle stationary, with the anti-theft switch open.

Single contact switches move from right to left : switches, relay contacts (the position of the coil for a relay, generally to the left of the contact switch, is not compulsory).

Where the inverter or selector switch is complex, the contact movements are shown in the manner to be considered the most comprehensible.

The electronic parts are not shown in detail.

The equipment symbols are those shown on the « symbol key ».

IDENTIFICATION : Several sorts of identification are used and are identical on both diagrams :

The large Arab numeral figures identify components and they are approximately arranged in columns on the wiring diagram.

The capital letters indicate harnesses (see parts list). These letters are located in the middle of a conductor on the circuit diagram. When the harness is indissociable from a part (anti-theft device, selector switch unit), it is not referenced.

The Roman and Arab numeral figures, located on each side of a conductor, are specific to the position of the connection blocks in the connection box.

The small letters located at the connection points are actual references indicating the colour, either of the wire, the end fitting, the marking on the wire or the combination of two colour references.

Example : F.BI : blue wire - Mv : mauve mark - F.J.Ve : yellow wire with green mark - F (R and Bc) : wire with red and white stripes.

The wires which are not marked do not lead to any confusion (when used in context).

The connection blocks are identified by a figure giving the number of channels, with a colour reference (in letters) and a figure indicating the connection line in which the wire is situated. (Due to a lack of room, 0 (zero) should read 10 (ten). The connection blocks vary in their colour and their number of channels.

All the connection blocks which are identified by the same colour carry the same inhibitor. (*When a connection block has to be replaced, it is necessary to order from the Replacement Parts Department a black male connector having the same number of channels, equipped with 5 mm female clips. These black connection blocks can be connected to any female connectors of the connection box having the same number of channels.*)

Colour codes used :

Bc : White	Gr : Grey	Ic : Transparent	Mv : Mauve	Or : Orange	Ve : Green
Bl : Blue	J : Yellow	Mr : Brown	N : Black	R : Red	Vi : Violet

The parts list : shows the function of the parts. The position means that they can be situated vertically on the circuit diagram. The various earthing points are also referenced « m ».

KEY TO DIAGRAM SYMBOLS (page 3)

- | | | |
|-----------------------------|--------------------------------|------------------------------|
| 1. Sockets connection | 9. Manual switch | 17. Motor |
| 2. Wiring connector | 10. Switch (fixed positions) | 18. Dial |
| 3. Connecting block | 11. Mechanical switch | 19. Resistor |
| 4. Screened conductor (s) | 12. Pressure switch | 20. Rheostat |
| 5. Fuse | 13. Temperature switch | 21. Solenoid |
| 6. Diode (rectifier) | 14. Lighting | 22. Coil (relays, etc ...) |
| 7. Accumulator (unit) | 15. Warning lamp | 23. Electronic unit |
| 8. Condenser | 16. Sound equipment | 24. Relay unit |

1



9



17



2



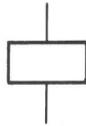
10



18



3



11



19



4



12



20



5



13



21



6



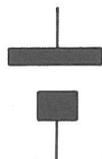
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22



7



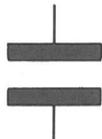
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23



8



16



24



CONNECTION BOX

Located under the dashboard at the L.H. side of the steering wheel, it comprises almost all the electrical functions. It is shown (*on page 3*) from above, with the front of the vehicle directed to the left.

DESCRIPTION.

- Twelve fuses (see table).
- Relays for electric fan : **R 1**
- Relays for rear window winders : **R 2**
- Relays for front window winders : **R 3**
- Relays for heated rear window : **R 4**
- Direction indicator flasher unit : **C**
- Windscreen wiper timer : **I**
- Connection blocks

Connection block.

- Twenty-five connection blocks can be connected; they all vary except the two connected to the anti-theft.
- They are different in their number of channels (1 to 10) and in their colours. All the connection blocks which are identified by the same colour carry the same inhibitor.
- They are classified by columns from **I** to **IV** (left to right) and by stages : **1** to **6** maxi. (from top to bottom).
(*On the circuit diagram, these numerals are located on each side of a conductor.*)

How to read the table (*page 2*)

Example : **II 1 0 Mr 9**

Connection block located in the 2nd column (**II**), first stage (**1**).

10-channel (**0**) brown (**Mr**) connection block.

Conductor placed in channel **9** of the connection block concerned.

Function : conductor supplying the clock : + permanent after fuse F.8.

Leads and marking (F.Ve N)/Green wire with black mark.

Position (**90**) : number of the vertical line on which the channel and the connection block can be situated on the circuit diagram.

Special features :

The two black connection blocks with two channels cannot be mistaken (clip of 9 mm for one of them, of 5 mm for the other).
The two white connection blocks with four channels may be interchanged without any risk (anti-theft inlet or outlet).

CONNECTION BOX

Column Stage	Number of channels	Colour	Channel	Function	Lead	Ident. mark	Position	Column Stage	Number of channels	Colour	Channel	Function	Lead	Ident. mark	Position						
I 1	5	Mr	1	Earth	Gr	Bl	99	III 5	3	Bl	1	Ignition coil									
			2	Sidelamp L.H. front headlamp	Ve	Gr	97				2	Ignition coil		N	7						
			3	Main beam	Gr	Bc	99				3	Coil return (tachometer)		Bc	9						
			4	Dipped beam	Gr	Ve	100				III 6	6	Bc	1	Heater (+ via anti-theft switch, after fuse 2)	J	Mv	36			
			5	Direction indicator	Ve	Bl	40							2	Heater (+ via anti-theft switch, after fuse 2)	J	Bl	37			
I 2	5	Bc	1	Dipped beam	Gr	J	102	III 6	6	Bc	3	"Side and tail lamp" function									
			2	Main beam R.H. front headlamp	Gr		101				4	+ Direct (after fuse 8)									
			3	Sidelamp	Ve	R	98				5	Air blower earth		Mr	36						
			4	Earth	Gr	Mr	101				6	Air blower earth			37						
			5	Direction indicator	Ve		41				IV 1	0	J	1	Main beam			99			
I 3	0	Bc	1	Heated rear window			48	2	Dipped beam R.H. switches						94						
			2	" " "			49	3	Rear fog lamp						92						
			3	Boot lighting			85	4	Flasher unit "C" lighting						40						
			4	Tail lamp Rear harness	Black ribbon type		96	5	L.H. direction indicator						40						
			6	Stoplamp			74	6	Earth			46									
II 1	0	Mr	1	Direction indicator warning lamp			39	IV 2	4	Bc	1	+ Direct Anti-theft	R		36						
			2	Main beam warning lamp			95				2	+ Direct	R		55						
			3	Dashboard earth Mr. 38 or 77 or			93				3	+ Direct	R		3						
			4	Dipped beam	Ve		94				4	+ Direct	R		7						
			II 1	0	Mr	5	Side and tail lamp warn lamp Dashboard	Ve	R	93	IV 3	1	N	1	Windscreen intermittent wiping (adjustable)						
						6	Rear fog lamp warn. lamp	Mr	Bl	92				IV 4	6	J	1	2nd speed			55
						7	Handbrake warning lamp		Gr	39							2	Supply L.H. switch			55
						8	+ via anti-theft switch (after fuse 2)		Mv	27							3	Pump			56
						9	Clock, + Direct (after fuse 8)	Ve	N	90							4	1st speed Windscreen			54
						0	Tachometer (- coil)	Ve	Bl	9							5	Automatic stop Wiper			52
0	Rear fog lamp			91	6	Intermittent wiping			53												
II 2	8	Bc	1	"Side and tail lamp" function			45	IV 5	7	Bc	1	Rear pump	Gr		56						
			2	Switch			42				2	Rear pump earth	Gr	Mr	56						
			3	+ Direct (after fuse 6) Hazard warning lamp switch			43				3	Front harness earth	Ve	Mr	40						
			4	L.H. direction indicator			42				4	Thermal switch for electric fan	Ve		14						
			5	+ via anti-theft switch (after fuse 2)			44				5	Horn	Gr								
			6	Flasher unit			43				6	Electric fan	Bl		15						
			7	R.H. direction indicator			43				7	Electric fan									
			8	Earth			45				V 1	3	J	1	Side and tail lamp function			46			
II 3	2	Bc	1	Side and tail lamp function			2	From horn switch						50							
			2	Earth			3	Towards horn switch						50							
			II 4	3	Mr	1	Earth Inner earth	J		88	V 2	4	Bl	1	Front window winder (+ fuse 9)	Bl		63			
2	Earth On scuttle panel	J					89	2	Earth												
3	Earth m 4	J					90	3	Sun-roof (+ fuse 8)	J					72						
II 5	3	Bc	1	Earth			79	O V	3	2	N	1	Battery supply	N							
			2				2					Battery supply	N								
			3	Cigar-lighter (+ fuse 8)	J	N	80					V 4	5	J	1	2nd speed		R	55		
III 1	2	Mr	1	Heated rear window switch outlet			48	2	1st speed Windscreen		Bl				54						
			2	Heated rear window switch (fuse 3)			48	3	Automatic stop Wiper motor		Bc				52						
			1	Stoplamp switch inlet (fuse 3)			N	4	+ via anti-theft switch (after fuse 3)		N				51						
			2	Glove compartment lighting earth			65	4	Earth	Gr					54						
			3	Towards handbrake contact	Gr		39	V 5	4	5	1	Starter motor solenoid	Gr	N							
4	Towards int. lamp and glove comp.light. From stoplamp contact	2 Ve	N	81	2	From reverse gear contact	Gr				Bc	12									
4	From handbrake switch	Ve		39	3	Alternator energizing	Gr				J	10									
III 3	2	N	1	+ Direct (after fuse 8)			87	V 6	3	R	1	Rear window winder (fuse 7)	N		69						
			2	+ via anti-theft switch (after fuse 8)			Radio				2	Door locking device (+ fuse 4)	Mr	N	106						
III 4	4	Bc	1	+ via anti-theft switch (after fuse 2)			36	V 6	3	R	3	+ Direct									
			2	+ via anti-theft switch (after fuse 3)			Anti-theft				Bc		55								
			3	Starter motor solenoid			Bc						3								
			4	+ via anti-theft switch (ignition)			Bc						7								

Colour code used :

Bc : White

Or : Orange

Mv : Mauve

Bl : Blue

R : Red

N : Black

Gr : Grey

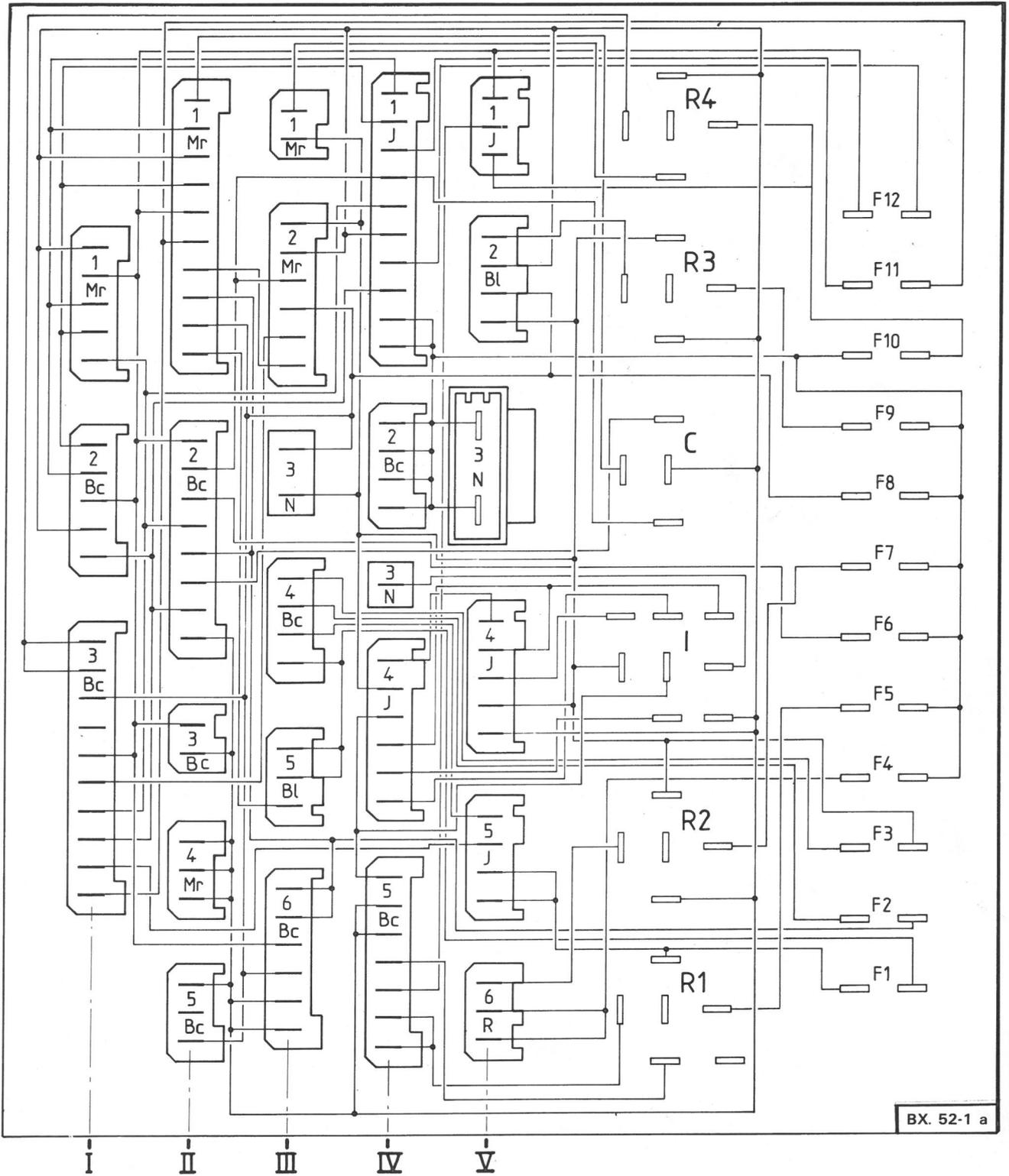
Ic : Colourless

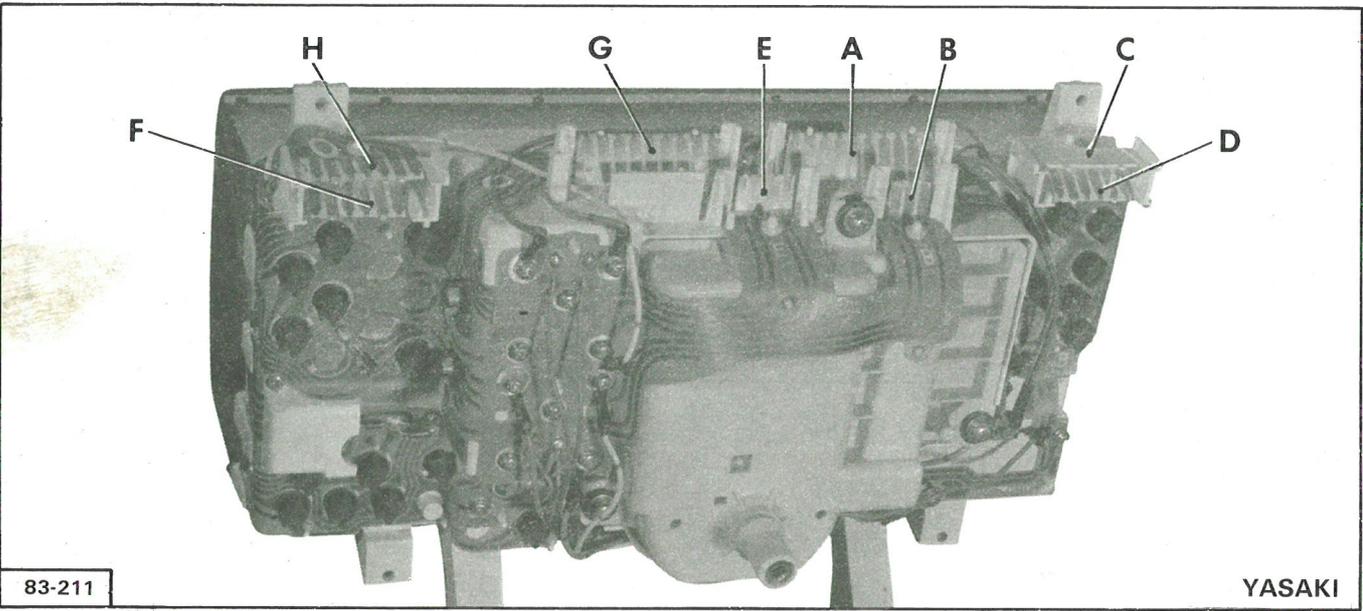
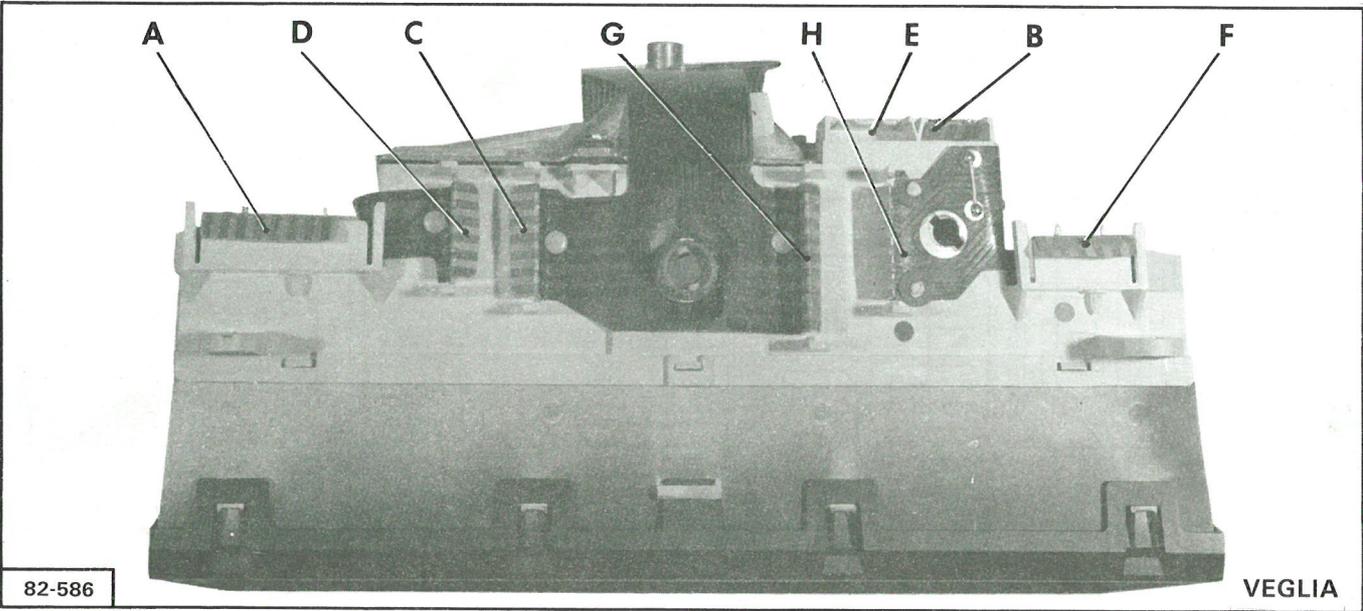
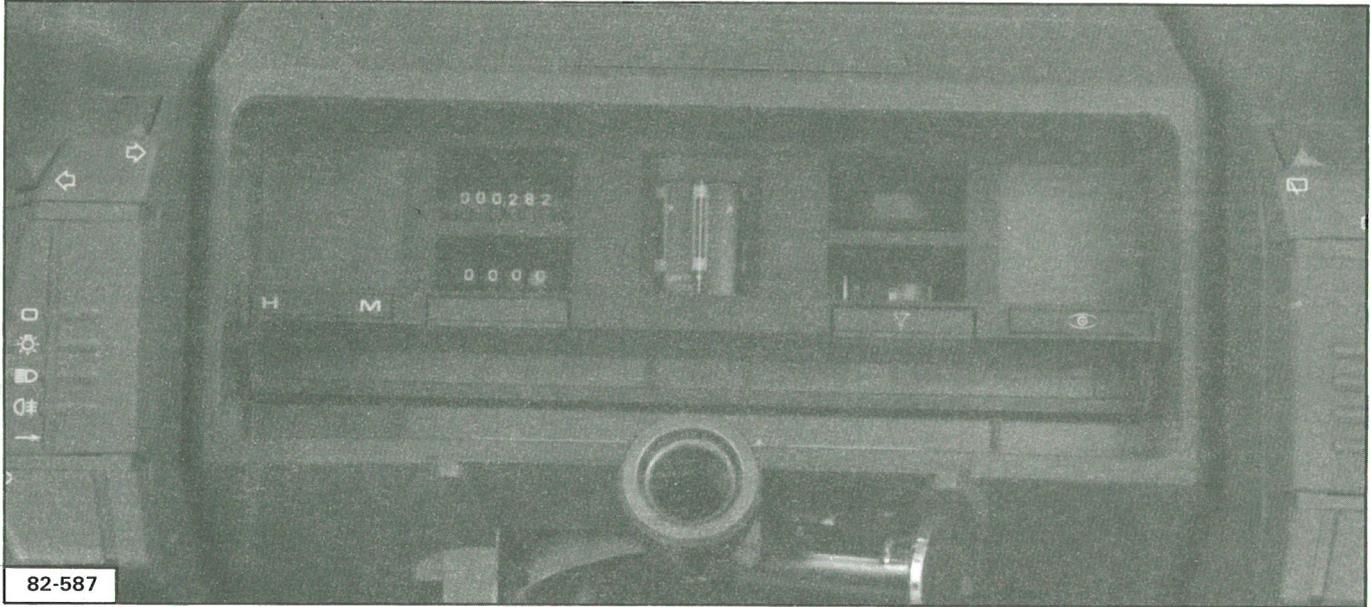
Ve : Green

J : Yellow

M : Brown

Vi : Violet

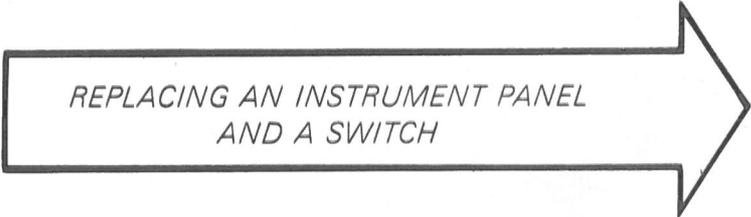




DASHBOARD

Table of connection blocks :

Number of channels	Colour	Channel	Functions	Ident. mark
10	White	1 2 3 4 5 6 7 8 9 0	"+" via anti-theft switch, after fuse 2, general supply "+" direct, after fuse 8 (clock) Tachometer display (petrol) Rear fog lamp warning lamp Side and tail lamp warning lamp Dipped beam warning lamp Main beam warning lamp Earth Direction indicator warning lamp "Handbrake on" warning lamp	A
9	Green	1 2 3 4 5 6 7 8 9	Econoscope warning lamp Econoscope warning lamp Catalyzer temperature warning lamp Diesel pre-heating warning lamp Automatic gearbox oil temperature warning lamp	G
7	White	1 2 3 4 5 6 7	P Gear selector warning lamp on automatic gearbox R N A 3 2 1	C
7	Blue	1 2 3 4 5 6 7	Brake pad wear warning lamp Choke warning lamp Water level warning lamp Hydraulic fluid warning lamp Dashboard lighting (through rheostat)	H
6	White	1 2 3 4 5 6	Bonnet locking device warning lamp R.H. front door locking device warning lamp R.H. rear door locking device warning lamp Tailgate locking device warning lamp L.H. rear door locking device warning lamp L.H. front door locking device warning lamp	D
6	Green	1 2 3 4 5 6	Water temperature warning lamp (emergency) Oil pressure warning lamp Water temperature warning lamp (flasher warning) Water temperature warning lamp (min.) Engine oil temperature warning lamp Battery charge warning lamp	F
4	Green	1 2 3 4	Engine oil gauge receiver Diesel tachometer Diesel tachometer Engine oil level	E
3	White	1 2 3	Petrol min. level warning lamp Gauge rheostat Gauge rheostat earth	B



REPLACING AN INSTRUMENT PANEL
AND A SWITCH

REPLACING AN INSTRUMENT PANEL

REMOVAL.

Uncouple the speedometer cable on engine side behind battery.

Remove cover : **Fig. I.**

Undo the two upper screws : **Fig. II.**

Remove finishing cover (1) undoing the two crosshead screws located under the steering wheel ().

Remove the two lower securing screws. Slide an 8 spanner with handle through holes () looking through the finishing cover location : **Fig. III.**

Disconnect the connectors and the speedometer cable from the instrument panel.

Pull out the instrument panel assembly and its front section.

Remove the instrument panel from the front section (four crosshead screws).

FITTING.

Proceed as above, in reverse order. (In case of replacement, check that the captive nuts are in position on the instrument panel lower attachments).

REPLACING A SIDE SWITCH.

REMOVAL.

Insert a screwdriver blade and exert force : **Fig. IV**

When the switch is released, it is disconnected at the same time.

FITTING.

Insert the switch pegs in the slots on the instrument board side, then engage the switch on the steering wheel side.

REPLACING A CONTROL SWITCH.

REMOVAL.

Insert a screwdriver blade in order to release the control unit spindle from its housing : **Fig. V.**

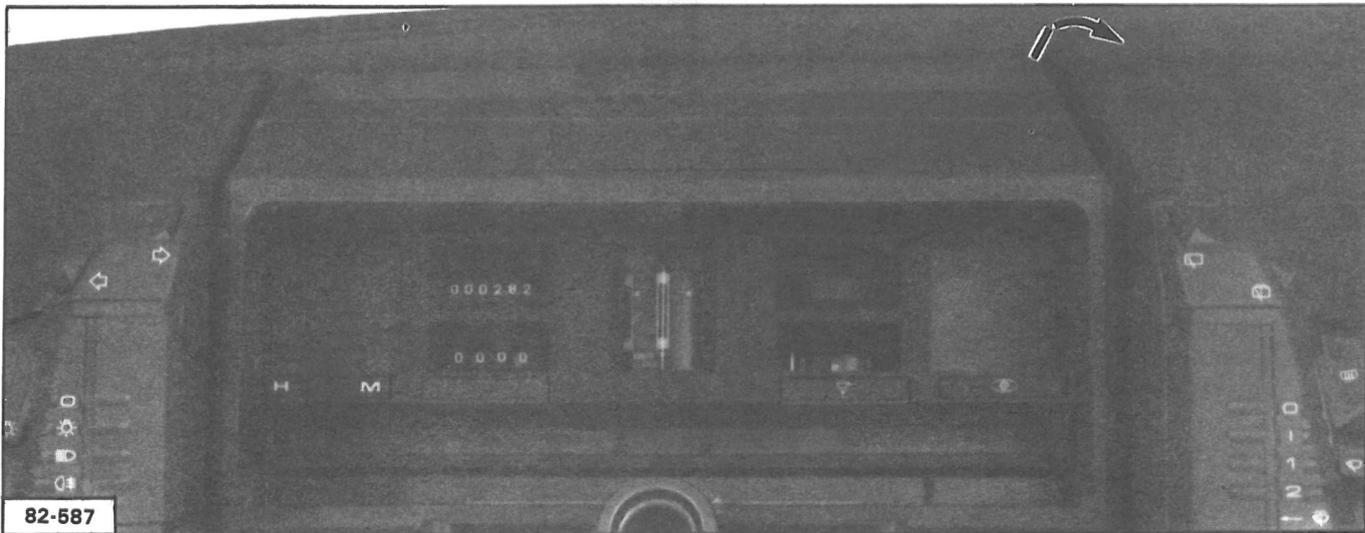
Remove the two crosshead screws.

Remove the three control switches (top, central, bottom).

FITTING.

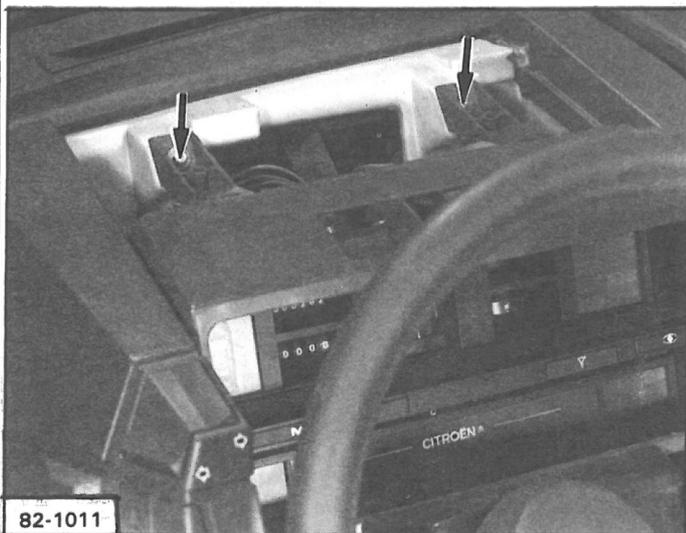
Assemble the top and bottom control switches in the central switch slides. Hold them in position and place the plastic plugs opposite their housings. Fit the screws.

Refit the control switch cover.



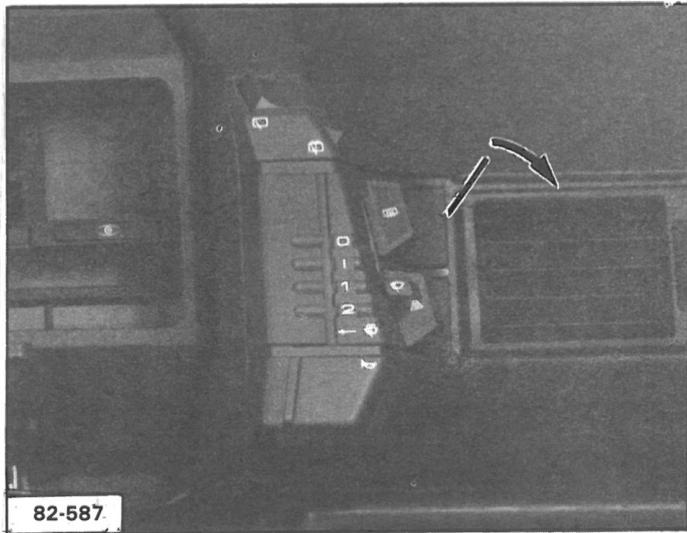
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I



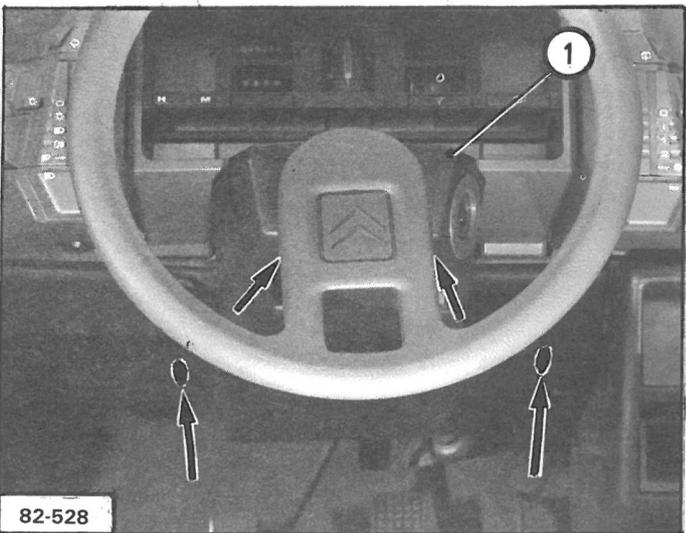
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II



82-587

IV



82-528

III



82-587

V



CHARACTERISTICS OF THE RADIO EQUIPMENT

The radio equipment comprises, depending on models :

- an aerial and its coaxial
- a harness according to the versions (standard or hi-fi)
- two front Tweeter : 8Ω 20 W
- one 2-coil Boomer : $2 \times 8 \Omega$ 20 W
- two Medium rear loudspeakers (hi-fi only) 8Ω 20 W
- two plugs for radio headphones (hi-fi only)
- a front-rear double balance : $2 \times 40 \Omega$ (1 A max.).
- the interference suppression (coil capacitor and generator, air intake braid)

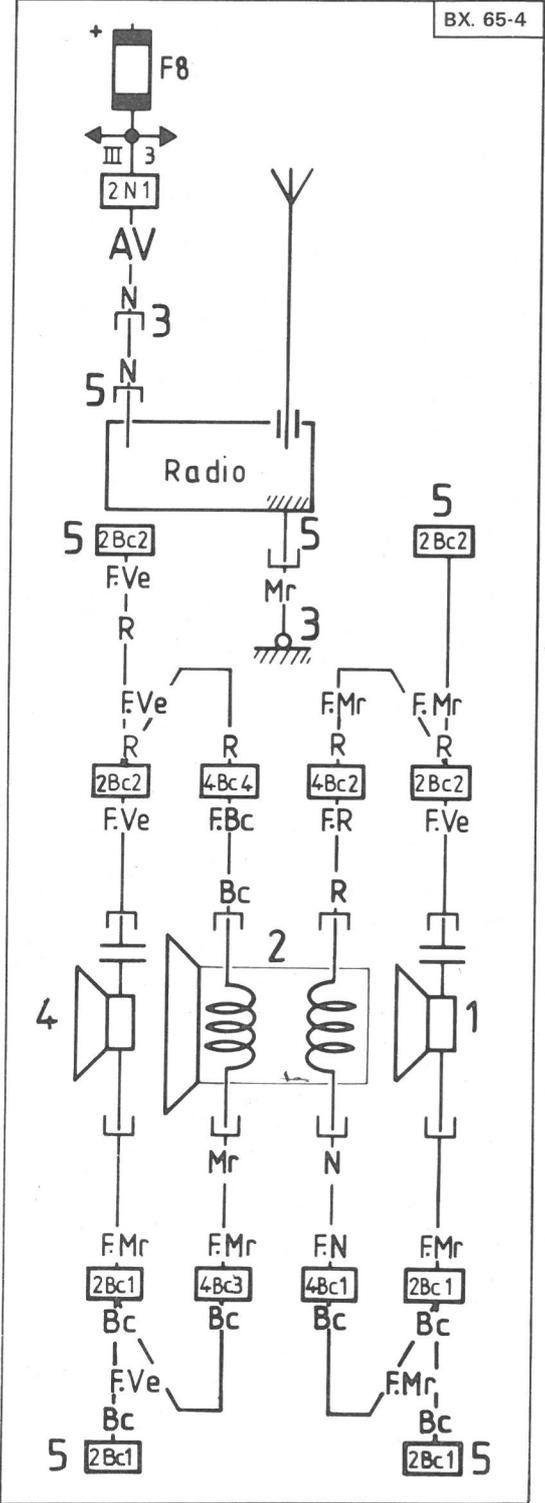
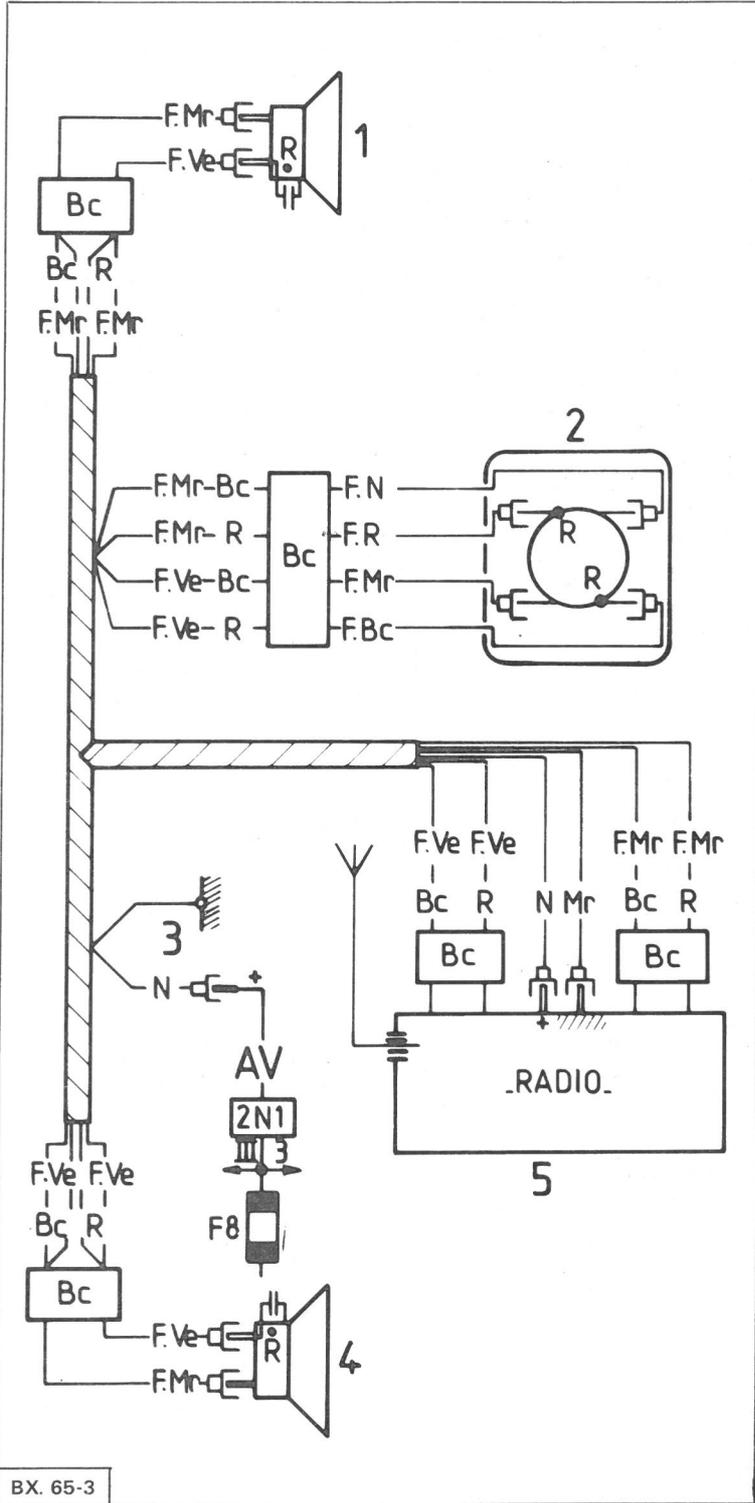
It is impossible to convert a standard version into hi-fi without changing the harness.

Standard version : diagrams page 3

Hi-fi version : diagrams pages 4 and 5.

List of components :

- 1** : R.H. front Tweeter
- 2** : Boomer
- 3** : Radio harness feeding from "+" front harness and earth
- 4** : L.H. front Tweeter
- 5** : Radio set connection plugs
- 6** : Front-rear balance
- 7** : R.H. rear Medium
- 8** : Plugs for radio headphones
(The 12 V plug located between the plugs for radio headphones, does not belong to the radio harness).
- 9** : L.H. rear Medium



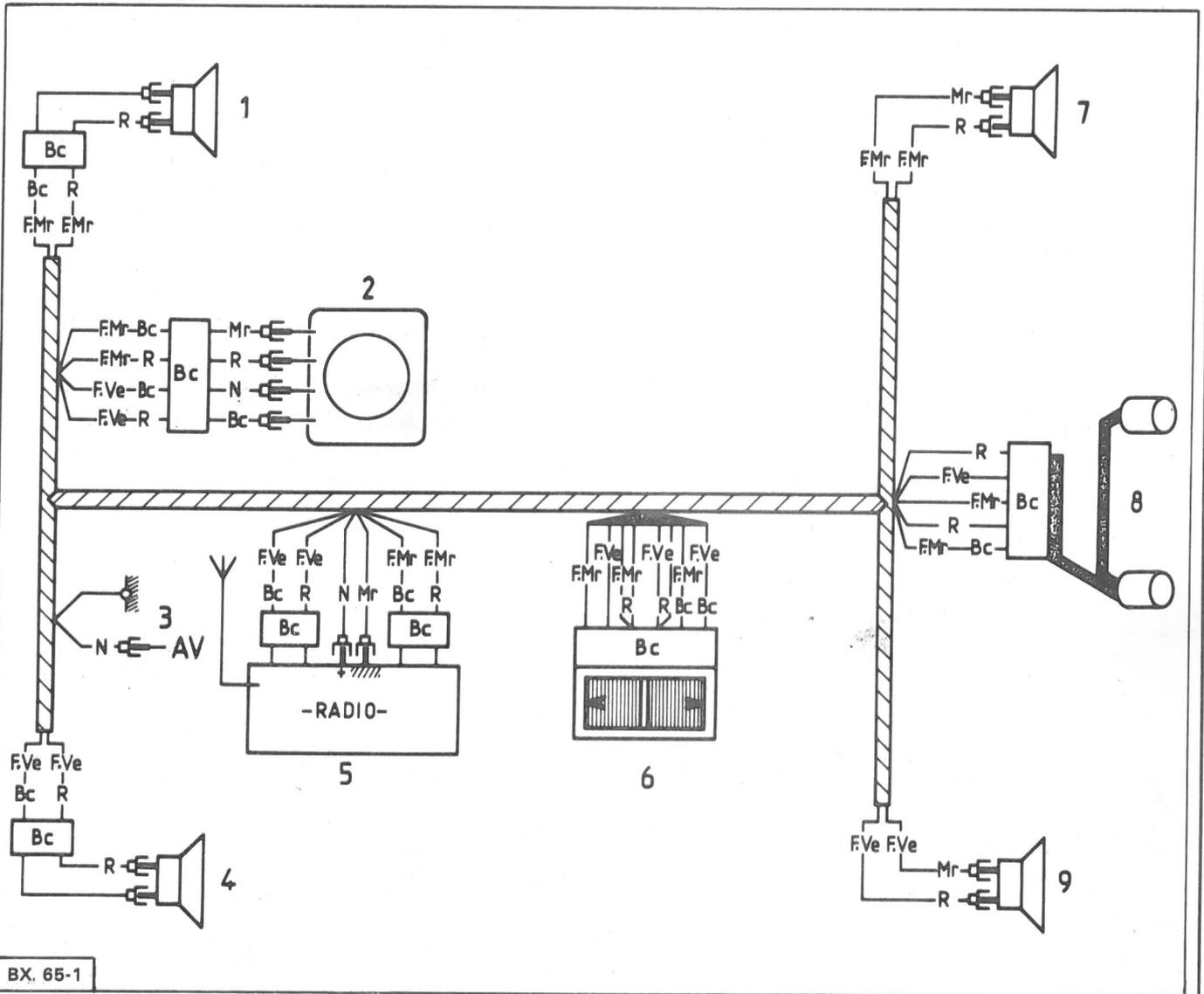


TABLE OF FUSES

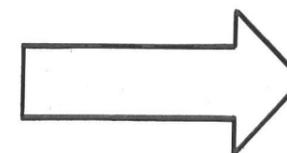
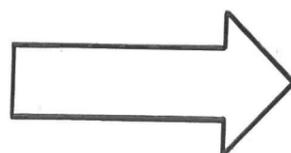
Ident mark	FUSES		POWER SUPPLY	CIRCUITS PROTECTED
	Rating	Colour		
F1	10 A	Red	3 « via anti-theft switch (coil) channel 4	Alternator energizing Reversing lamp Idle cut off Relay coil for electric cooling fan
F2	25 A	White	+ via anti-theft switch Channel 1	Direction indicators Air blower Electronic unit for engine oil level Warning lamps for : - petrol min-level - engine oil pressure - hydraulic fluid pressure and level - water temperature - water level - emergency « STOP » - choke - battery charge - brake pad wear, handbrake
F3	25 A	White	+ via anti-theft switch Channel 2	Windscreen wiper motor Windscreen washer pump Rear window wiper motor Rear window washer pump Relay coil and indicator lamp for heated rear window Stoplamps Rheostat and lighting for dashboard, ashtray, cigar-lighter and heating control Relay coil for front and rear window winders Horn
F4	25 A	White	+ Battery	Door locking device (unit and motors)
F5	25 A	White	+ Battery	Electric cooling fan
F6	10 A	Red	+ Battery	Hazard warning lamps
F8	20 A	Yellow	+ Battery	Side interior lamps Lighting for boot and glove compartment Cigar lighter Clock Radio
F9	25 A	White	+ Battery	Front door window winder
F10	20 A	Yellow	+ Battery	Heated rear window
F11	5 A	Brown	Switch	Rear fog lamps Warning lamp for rear fog lamps
F12	5 A	Brown	Lighting switch	Side and tail lamps Number plate lighting Warning lamp for side and tail lamps

TABLE OF BULBS

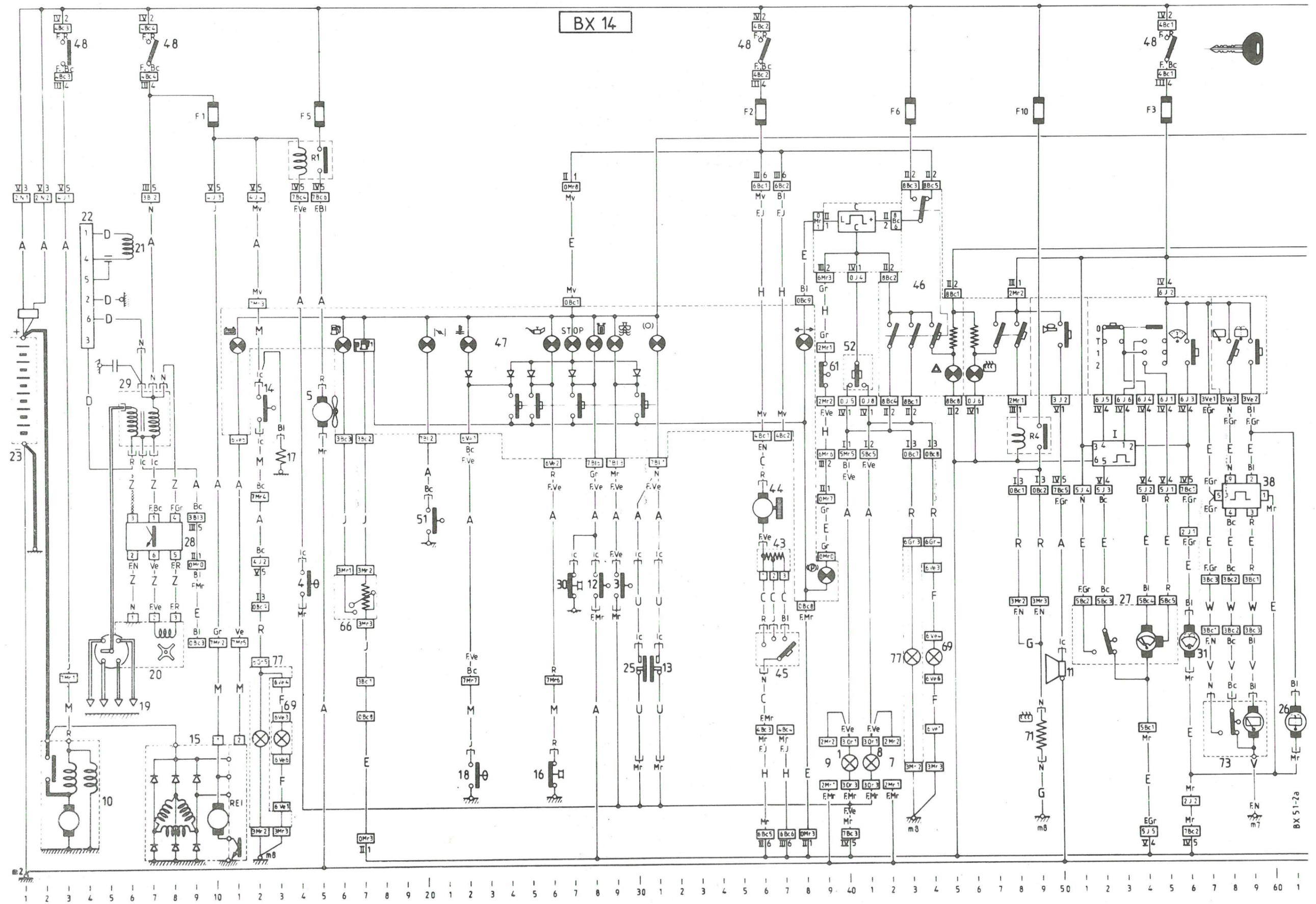
USE	Quantity	Base	Voltage	Power	Type
Main and dipped beams	2	P.43 t 38	12 V	60/55 W	H 4
Direction indicators	4	BA 15 s/19	12 V	21 W	P 25/1
Stop lamps (braking system)	2				
Reversing lamps	2				
Rear fog lamps	2				
Tail lamps	2	BA 15 s/19	12 V	5 W	R 19/1
Number plate lighting	2				
Side lamps	2	BA 9 s	12 V	4 W	T 8/4
Speedometer lighting	1	BA 9 s	14 V	4 W	
Interior lamp	2	Festoon	12 V	7 W	
Boot lamp	1	Festoon	12 V	5 W	C 11
Lighting for heating control, ashtray, cigar-lighter	3	Wedge base dia. = 5 mm	12 V	1.2 W	
Dashboard warning lamps	2				
Switch warning lamps	15				
	2				

HARNES PARTS LIST

- | | |
|--|---|
| A : Front | M : Engine |
| B : Boot locking, intermediate | P : Interior lamp |
| C : Heater unit | R : (Ribbon shaped) rear |
| D : Diagnostic | S : Radio |
| E : Windscreen wiper and dashboard | U : Front brakes pad wear |
| F : Ribbon-type, between rear lamps | V : Tailgate, R.H. (rear window wiper) |
| G : Tailgate, L.H. | W : Tailgate, R.H., intermediate |
| H : Passenger compartment | Z : Transistorized ignition |
| J : Petrol gauge | |



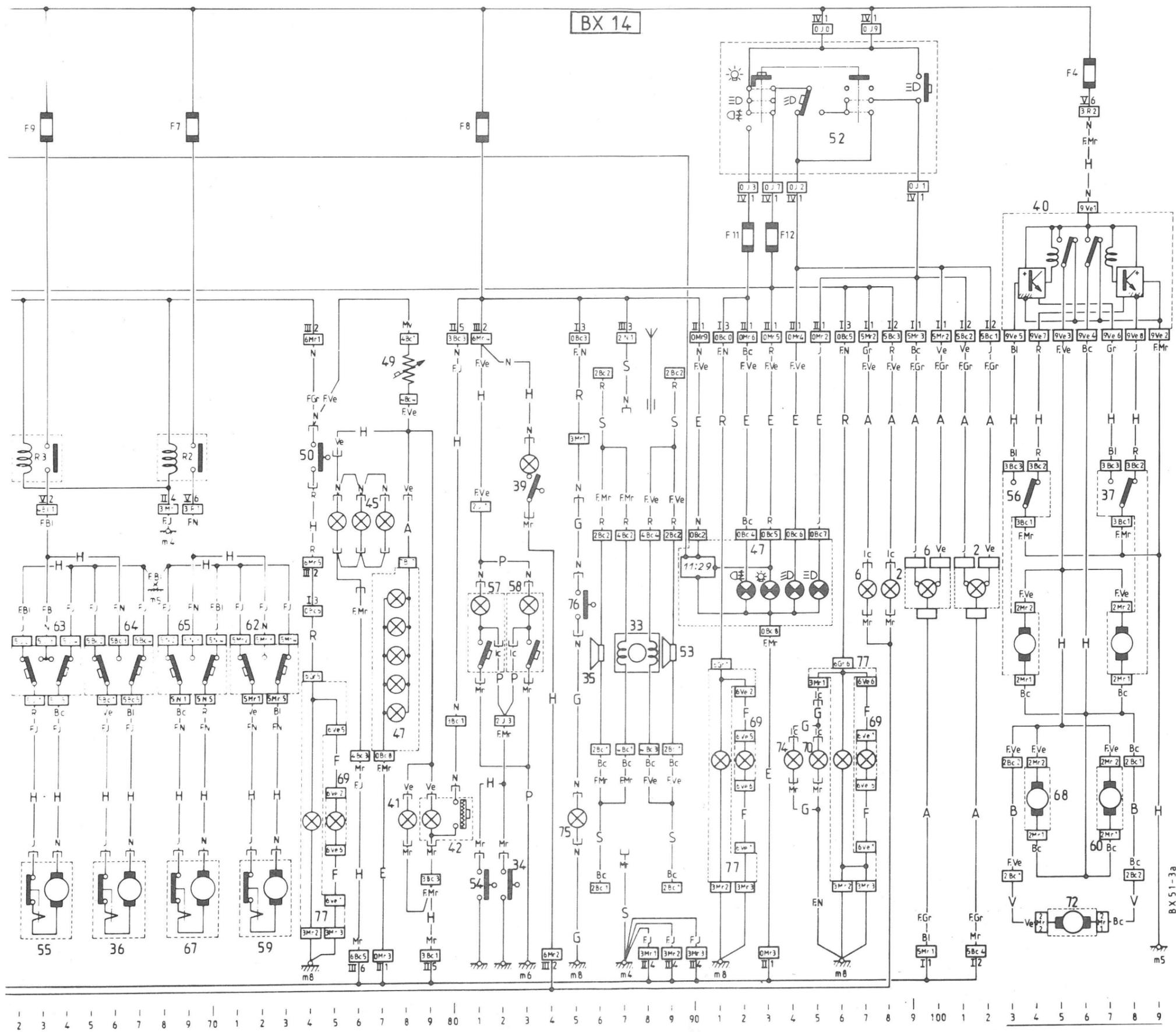
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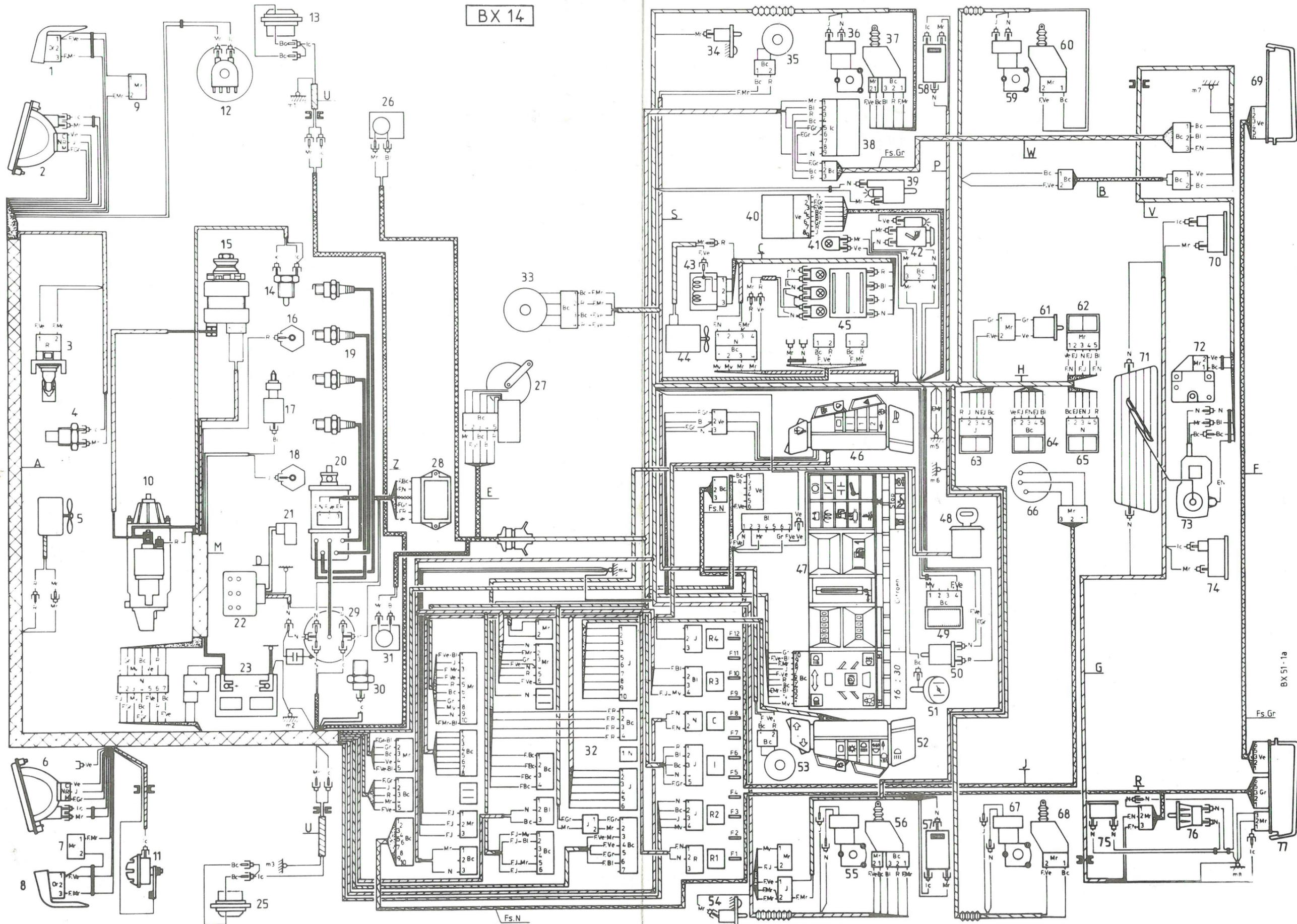
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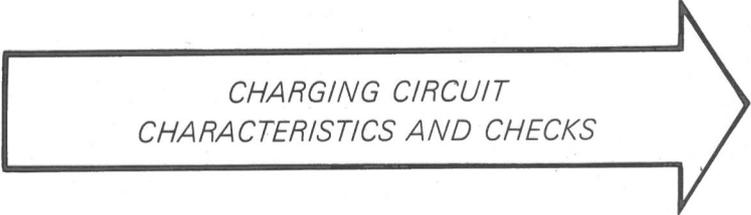
Ident. mark	Description	Position	Ident. mark	Description	Position
1	Front direction indicator, R.H. side	41	47	Dash-board (continued) :	
2	Headlamp : R.H. side : Sidelamp	98		"Handbrake on" warning lamp	39
	Main and dipped beams	101 - 102		Warning lamp for emergency "STOP"	27
3	Water level switch	29		Test button for warning lamps	24-25-27-30
4	Electrical fan thermal switch	14		Warning lamp for battery charge	11
5	Electric cooling fan	15		Warning lamp for min. petrol level in tank	16
6	Headlamp, L.H. side : Sidelamp	97		Warning lamp for water temperature	22
	Main and dipped beams	99 - 100		Warning lamp for front brake wear	31
7	Connection block for L.H. direction indicator repeater	42		Warning lamp for choke	30
8	Front direction indicator, L.H. side	40		Warning lamp for hydraulic fluid (pressure and level)	28
9	Connection block for R.H. direction indicator repeater	39		Warning lamp for engine oil pressure	26
10	Starter	2 to 4	48	Warning lamp for coolant level	29
11	Horn	50	49	Anti-theft switch	3 - 7 - 36 - 55
12	Hydraulic fluid level switch	28	50	Lighting rheostat	78
13	Front brake unit, R.H. side (wear)	31	51	Stop lamp switch	74
14	Reversing lamp switch	12	52	Choke control	20
15	Alternator with integrated regulator	7 to 11		L.H. control unit :	
16	Engine oil pressure switch	26		Lighting	92 to 99
17	Idle cut-off	13	53	Direction indicators	40 - 41
18	Coolant temperature switch	22	54	Loudspeaker, L.H. side	86
19	Ignition sparking plugs	4 to 6	55	L.H. door switch	81
20	Distributor	4 to 8	56	Motor for L.H. front window winder	62 to 64
21	T.D.C. sensor (diagnosis)	6		Electronic unit for L.H. front door locking device	103 - 104
22	Diagnostic socket	4	57	L.H. interior lamp	81
23	Battery	1	58	R.H. interior lamp	83
24	Deleted		59	Motor for R.H. rear window winder	68 to 70
25	Front brake unit, L.H. side (wear)	30	60	Motor for R.H. rear door locking device	107
26	Rear window washer pump	61	61	"Handbrake on" switch	39
27	Windscreen wiper motor	51 to 55	62	R.H. rear window winder switch	68 to 70
28	Electronic ignition unit (module)	6 to 8	63	L.H. front window winder switch	62 to 64
29	Ignition coil	6 - 7	64	R.H. front window winder switch	65 to 67
30	Hydraulic fluid pressure switch	27	65	L.H. rear window winder switch	71 to 73
31	Windscreen washer pump	56	66	Fuel gauge rheostat	16 - 17
32	Connection box (see detail)		67	Motor for L.H. rear window winder	71 to 73
33	2-channel loudspeaker "Boomer"	87 - 88	68	Motor for L.H. rear door locking device	104
34	R.H. front door switch	82	69	R.H. rear lamp cluster : Tail lamp	97
35	Loudspeaker R.H. side	89		Stoptlamp - Fog lamp	75 - 92
36	Front window winder, R.H. side	65 to 67		Reversing lamp - Direction indicator	13 - 44
37	R.H. front door locking device unit	107-108	70	Number plate lighting R.H. side	95
38	Rear window wiper timer unit	58-59	71	Heated rear window	49
39	Glove compartment lighting	83	72	Motor for tailgate locking device	105
40	Electronic unit for door locking device	103 to 109	73	Motor for rear window wiper	57 to 59
41	Ashtray lighting	78	74	Number plate lighting, L.H. side	94
42	Cigar-lighter and lighting	79 - 80	75	Boot lamp	85
43	Air blower resistors	36 - 37	76	Boot lamp switch	85
44	Air blower	36	77	L.H. rear lamp cluster : Tail lamp	96
45	Air blower control and lighting	36-37-75 to 77		Stoptlamp - Fog lamp	74 - 91
46	R.H. control unit :			Reversing lamp - Direction indicator	12 - 43
	Windscreen wiper and washer	52 to 56			
	Heated rear window	46 to 48			
	Horn	50			
	Hazard warning device	42 to 45			
47	Dash-board :		m1	Earth for R.H. front brake pad wear	31
	Warning lamp for main beams	95	m2	Battery earth on bodyshell	1
	Warning lamp for dipped beams	94	m3	Earth for L.H. front brake pad wear	30
	Warning lamp for side and tail lamps	93	m4	Earth of connection box	9 - 69 - 87
	Warning lamp for direction indicator	38	m5	Earth on console	67
	Warning lamps for rear fog lamps	92	m6	Earth on the upper part of the windscreen frame	83
	Clock	90	m7	R.H. rear earthing (rear window wiper)	59
	Lighting for dash-board	77 - 78	m8	L.H. rear earthing (heated rear window, boot lighting R.H. and L.H. lamps)	49-85-12-43-74-91-96
	Fuel gauge indicator	17			

Earthing points



BX 14





CHARGING CIRCUIT
CHARACTERISTICS AND CHECKS

CHARACTERISTICS.

Alternator : Class 5 (50 A - 750.W approx.)

With built-in electronic regulator and charge detection.

Manufacturers and references :

Alternator BOSCH 0 120 489 164
 DUCELLIER 516 039
 PARIS-RHONE

Regulator only BOSCH 1 197 311 007
 DUCELLIER
 PARIS-RHONE

V-belt transmission.

Pulley diameter ratio : engine/alternator : 2.23/1.

CHECKS.**Testing the alternator output :**

At 13.5 volts : 32 Amperes min. at 2,000 rpm alternator (900 rpm engine speed)
 : 47 Amperes min. at 4,000 rpm alternator (1,800 rpm engine speed).

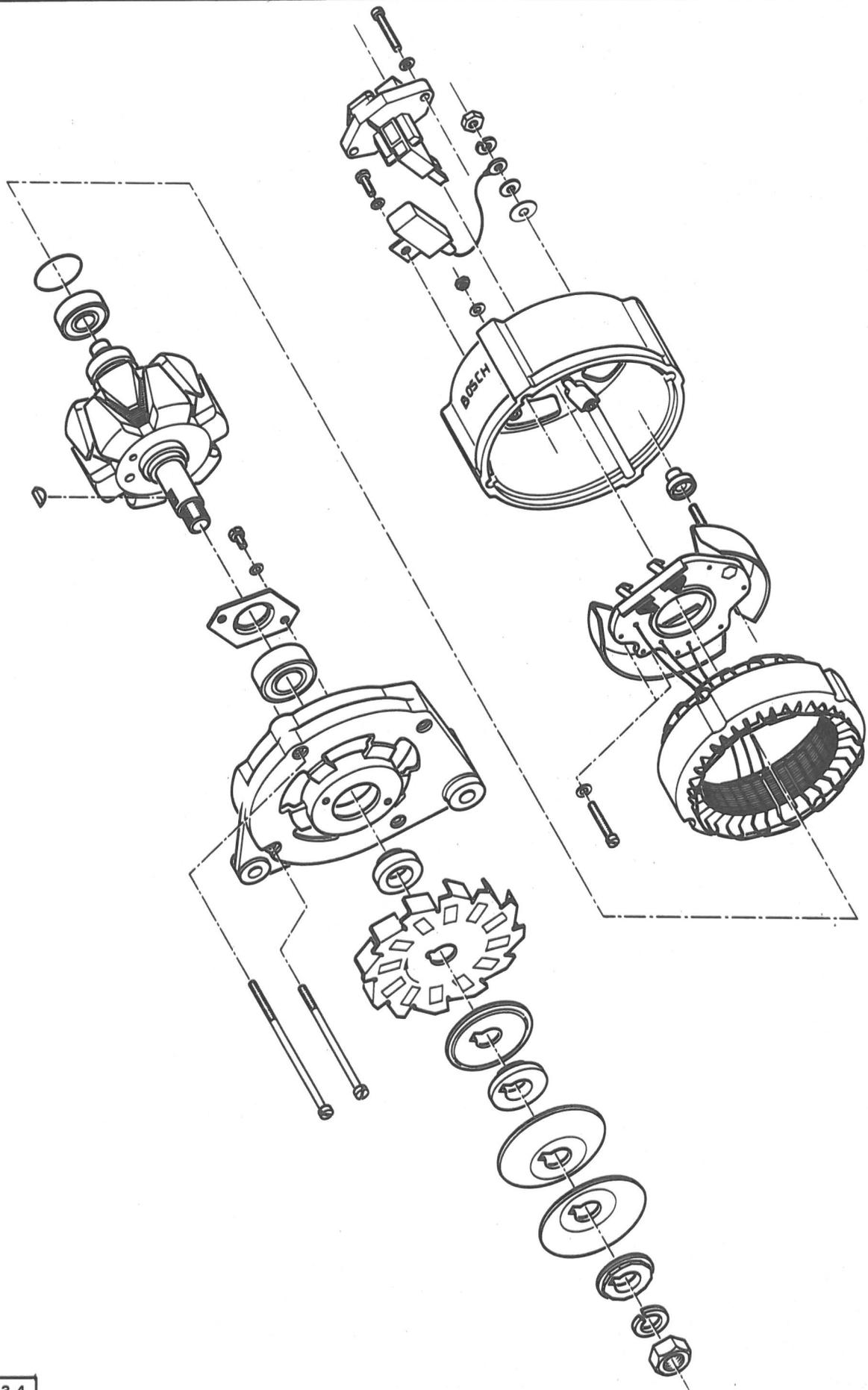
Regulated voltage test :

With the alternator warm : between 13.8 and 14.5 V.

(With the alternator cold : between 14.2 and 14.8 V. approx.)

BATTERY SPECIFICATIONS.

12 volts 175/35 Ah Type : L 1



BX. 53-4

STARTER MOTOR CHARACTERISTICS
AND CHECKS

CHARACTERISTICS.**Starter motor :** class 2

Manufacturers and references : DUCELLIER 532 014 (*page 3*)
PARIS-RHONE D 8 E 151 (*page 5*)
BOSCH 9 000 142 002 (*page 4*)

Solenoid positive control type.

Drive gear : 9 teeth module 2.116/1.814.

CHECKS.

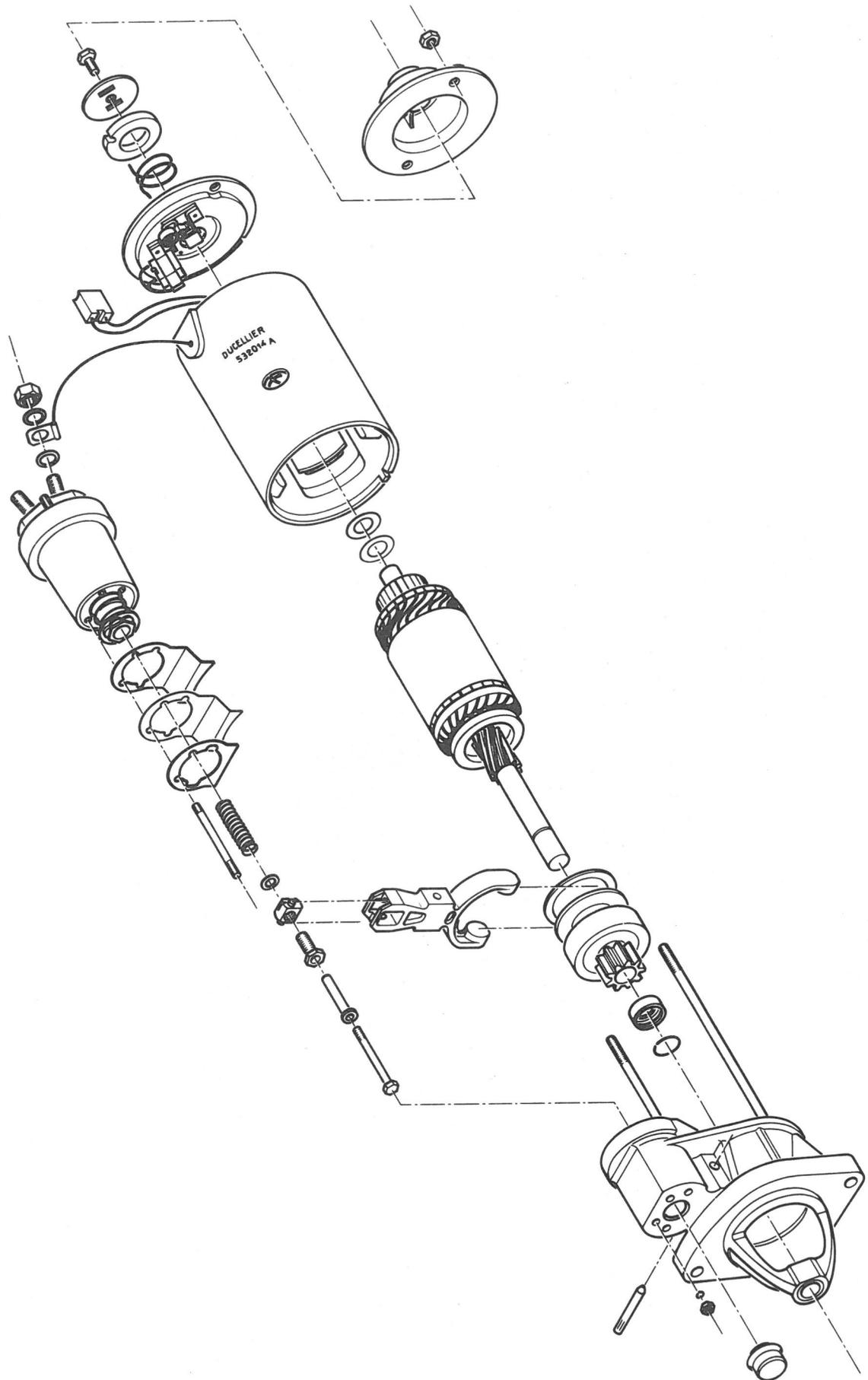
Use a fully charged battery (35 Ah).

Starter motor :

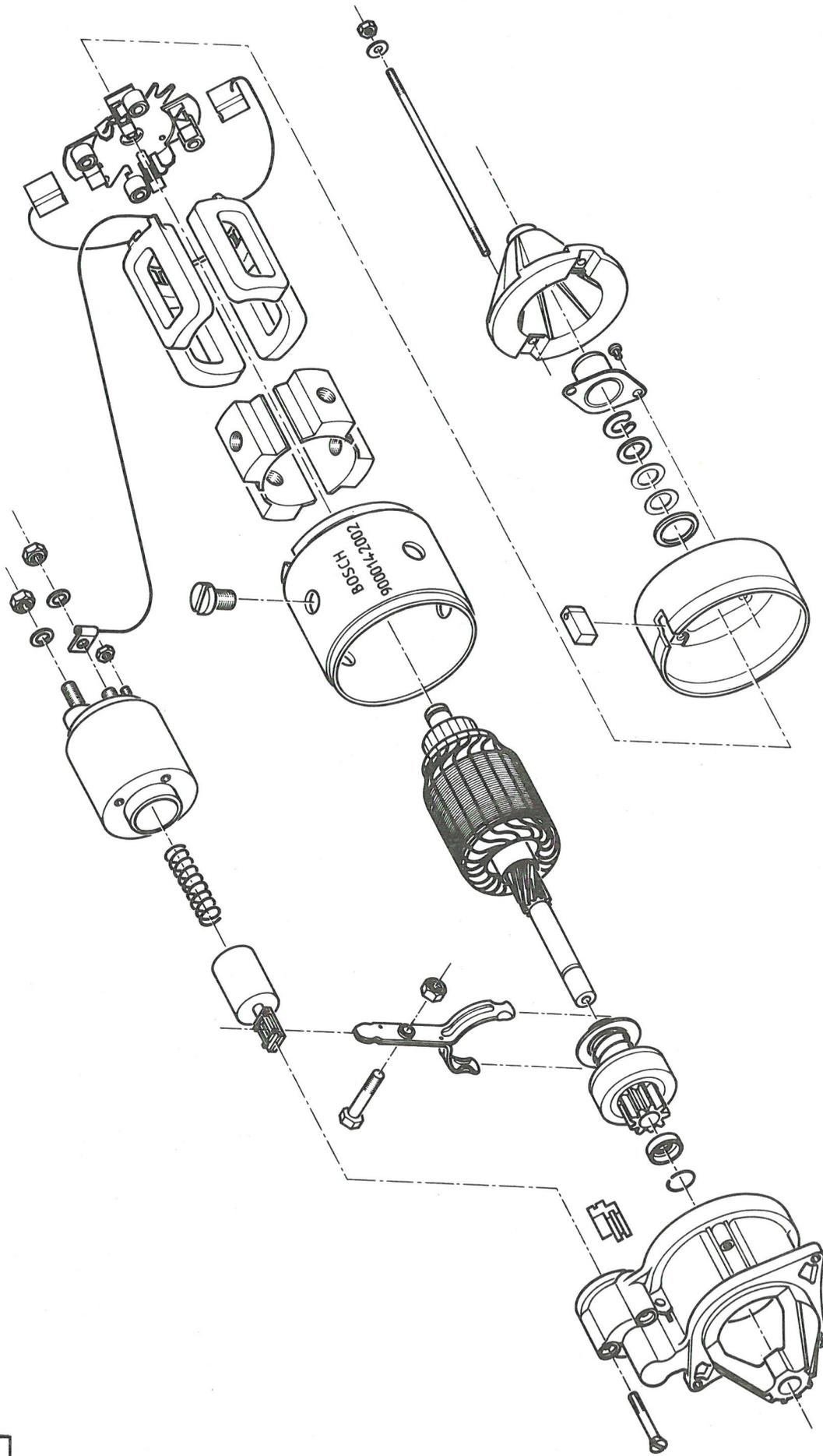
- Locked torque : 8.5 Nm minimum
for a maximum current of : 350 Amperes maximum
- Rotating peak : 1200 rpm
Torque : 4.5 Nm minimum
for a maximum current of : 220 Amperes maximum
- Off-load speed under : 8500 rpm

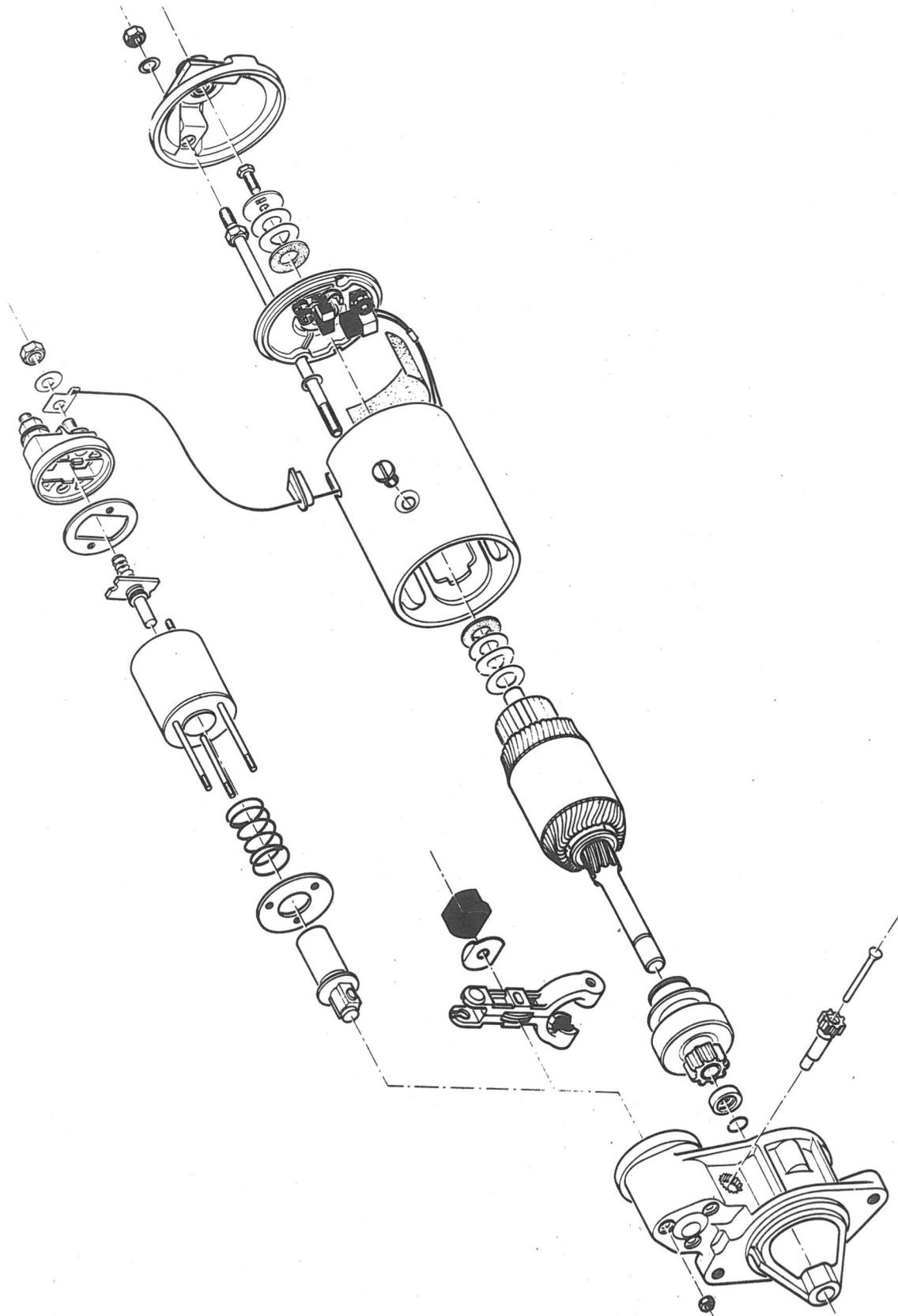
Solenoid :

- Sollicited current (command and hold) : 30 A max.
- Hold current : 8.5 A max.



BX. 53-5





BX. 53-8



*REMOVING AND FITTING
A STARTER MOTOR*

REMOVAL

Disconnect the cable from the battery negative terminal.

Disconnect the supply leads from the starter motor terminal.

Disconnect the red identification plug from the solenoid.

Remove screws (1) and (2) securing the starter motor **Fig. I**

Remove engine mounting nuts (3) and (4). **Fig. II**

Lift the engine-gearbox unit in order to reach starter motor securing screw (5) and remove the screw. **Fig. III**

Remove the two screws (6) securing the starter rear bearing and pull the starter out of its casing. **Fig. IV**

FITTING.

Engage the starter motor into its casing and fit the two screws (6) of rear bearing. **Fig. IV**

Fit and tighten screws (5), (1) and (2). **Fig. III and I**

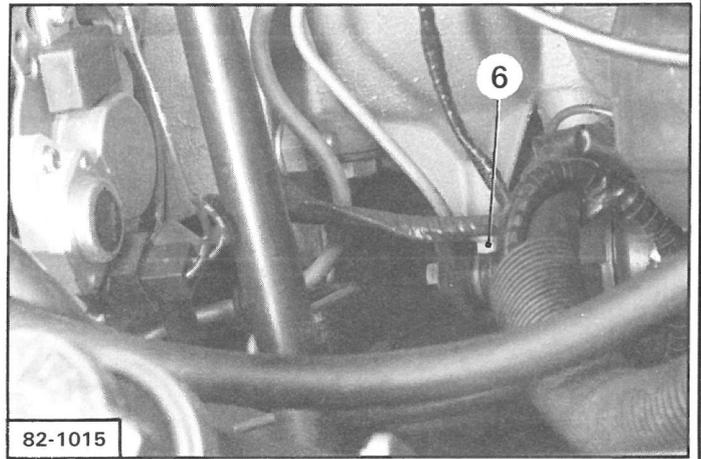
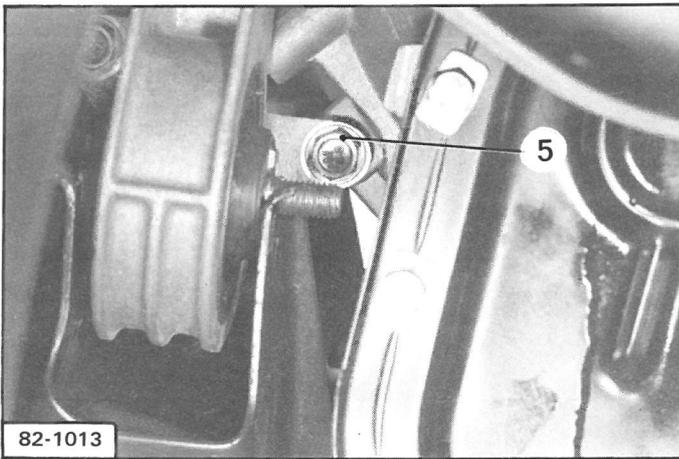
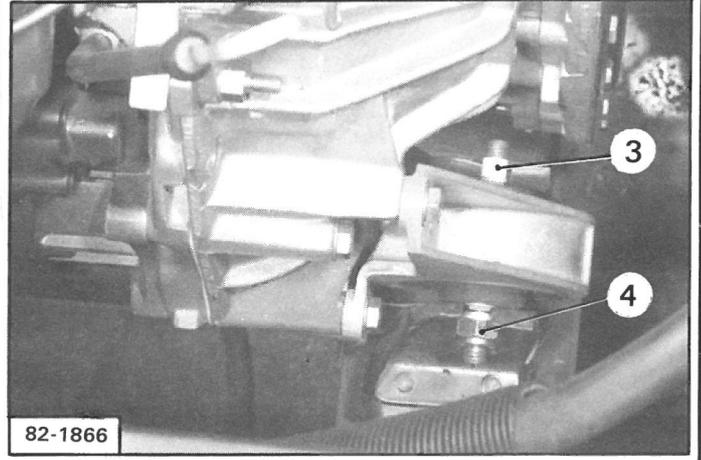
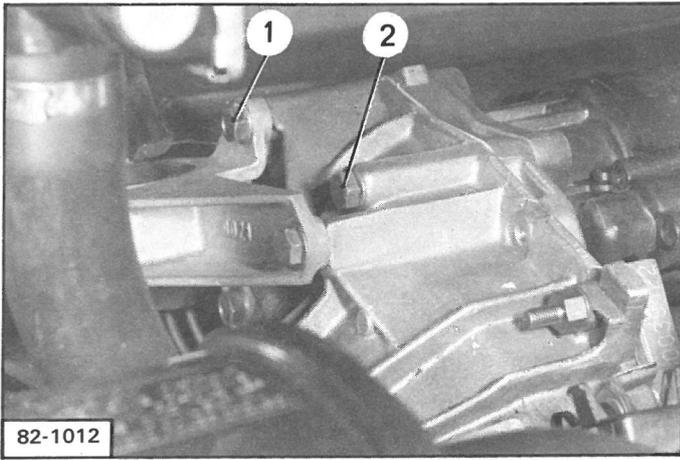
Install the engine-gearbox unit on its bracket. Fit and tighten bolts (3) and (4). **Fig. II**

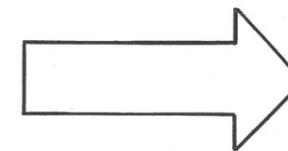
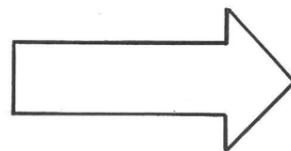
Tighten screws (6) of rear bearing. **Fig. IV**

Connect the supply leads to the starter terminal.

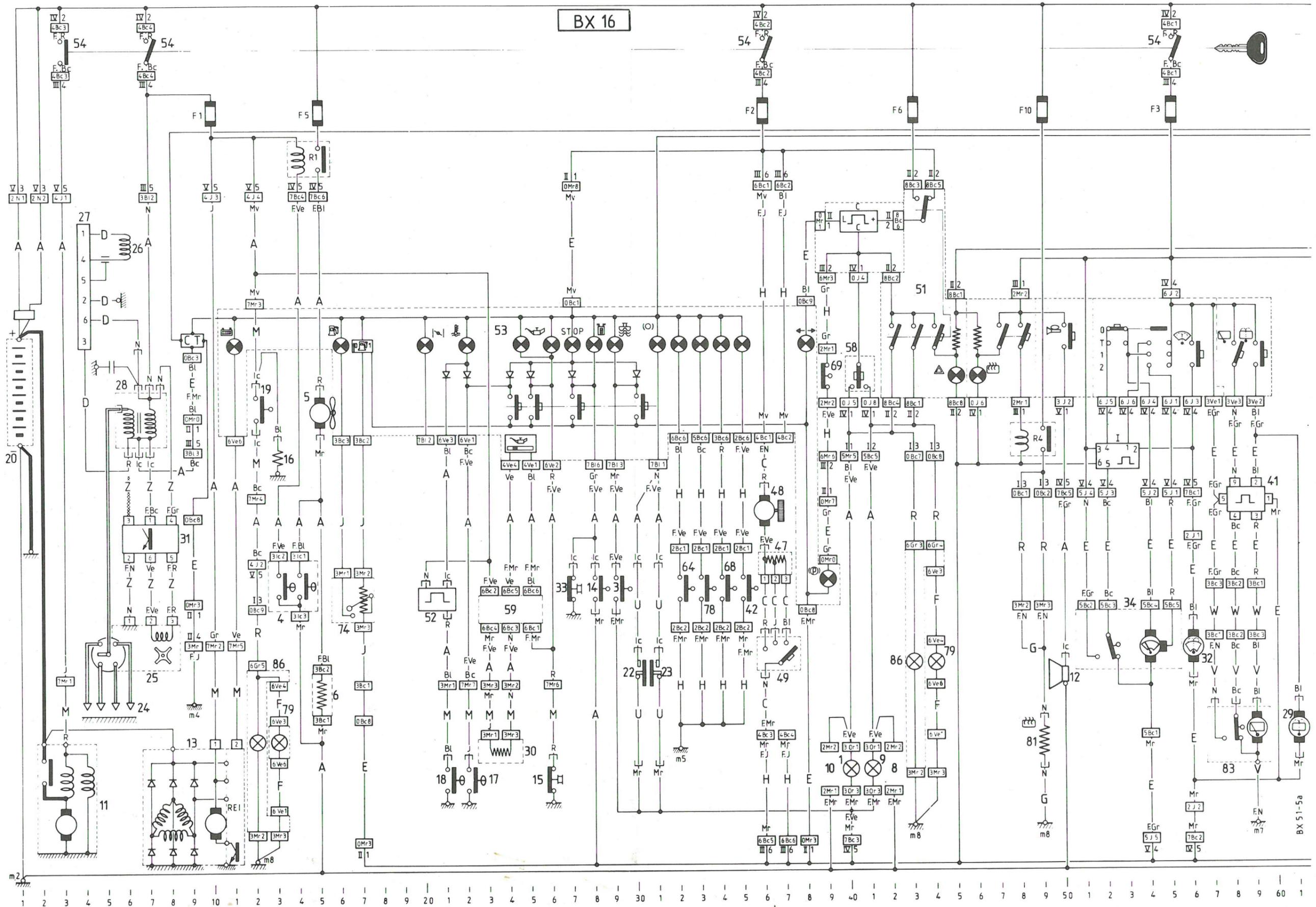
Connect the red identification supply to the solenoid.

Connect cable to the battery negative terminal.

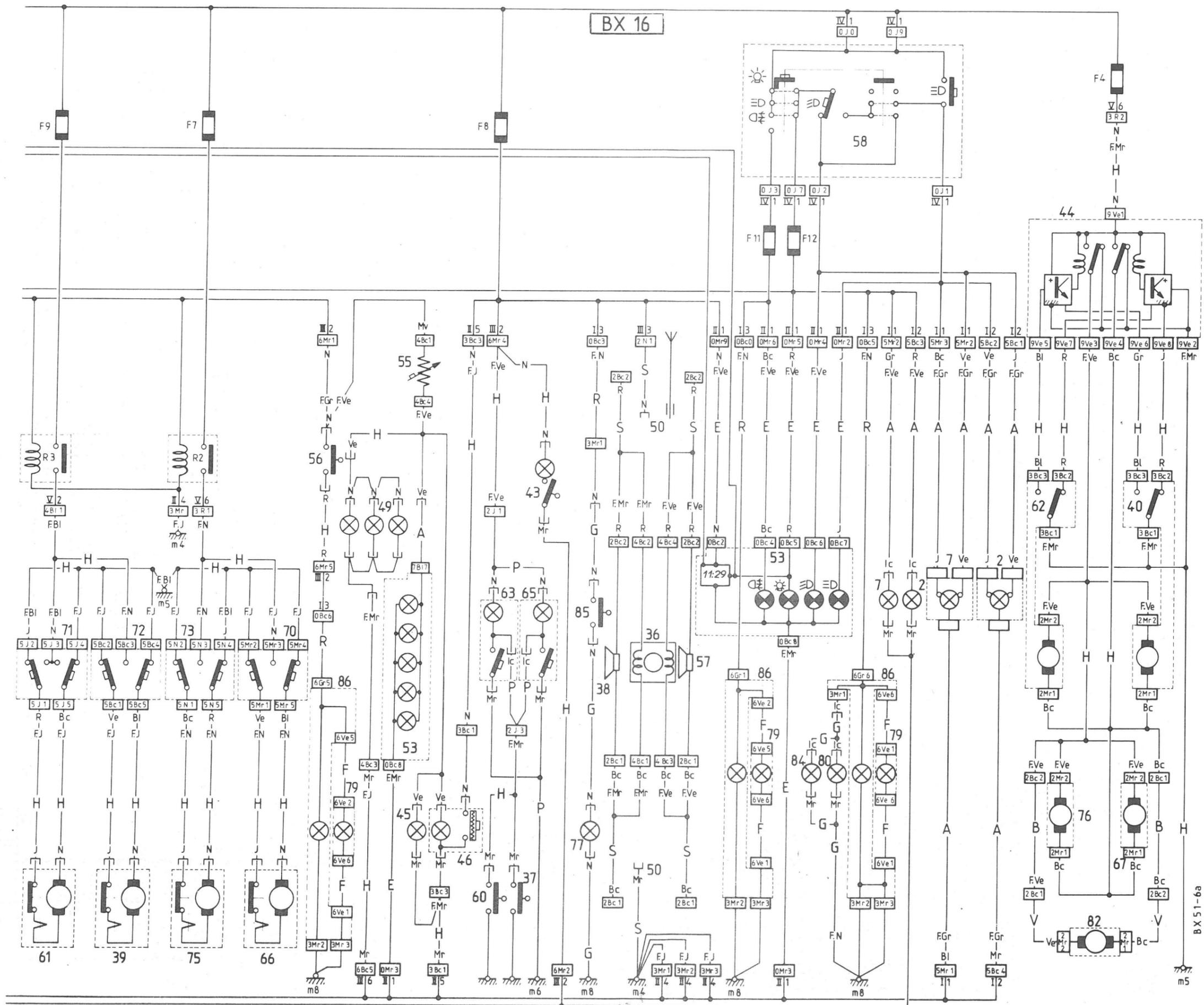




BX 16



BX 16



BX 51-6a

2 3 4 5 6 7 8 9 70 1 2 3 4 5 6 7 8 9 80 1 2 3 4 5 6 7 8 9 90 1 2 3 4 5 6 7 8 9 100 1 2 3 4 5 6 7 8 9

TABLE OF FUSES

FUSES			SUPPLY	CIRCUITS PROTECTED
Ident. mark	Rating	Colour		
F1	10 A	Red	+ via anti-theft switch (coil), channel 4	Water temperature flasher unit Alternator energizing Reversing lamps Idle cut-off Electric fan coil relay Electronic unit for engine oil level
F2	25 A	White	+ via anti-theft switch channel 1	Direction indicators Air blower Petrol gauge - Tachometer Warning lamps for : - petrol min. level - engine oil pressure - hydraulic fluid pressure and level - water temperature (warning and emergency) - water level - emergency « STOP » - door locking device - battery charge - brake pads wear, handbrake - digital clock lighting
F3	25 A	White	+ Via anti-theft switch Channel 2	Windscreen wiper motor Windscreen washer pump Rear window wiper motor Rear window washer pump Relay coil and indicator lamp for heated rear window Stoplamps Rheostat and lighting for dashboard, ashtray, cigar-lighter and heating control Relay coil for front and rear window winders Horn
F4	25 A	White	+ Battery	Door locking device (unit and motors)
F5	30 A	White	+ Battery	Electric cooling fan
F6	10 A	Red	+ Battery	Hazard warning lamps
F7	25 A	White	+ Battery	Rear window winder
F8	20 A	Yellow	+ Battery	Side interior lamps Boot lamp and glove comp. lamp Cigar-lighter Clock Radio
F9	25 A	White	+ Battery	Front door window winder
F10	20 A	Yellow	+ Battery	Heated rear window
F11	5 A	Brown	Switch	Rear fog lamps Warning lamp for rear fog lamps
F12	5 A	Brown	Lighting switch	Side and tail lamps Number plate lighting Warning lamp for side and tail lamps Rheostat for clock lighting

TABLE OF BULBS

USE	Quantity	Base	Voltage	Power	Type
Main and dipped beams	2	P.43 t 38	12 V	60/55 W	H 4
Direction indicators	4	BA 15 s/19	12 V	21 W	P 25/1
Stop lamps (braking system)	2				
Reversing lamps	2				
Rear fog lamps	2				
Tail lamps	2	BA 15 s/19	12 V	5 W	R 19/1
Number plate lighting	2				
Side lamps	2	BA 9 s	12 V	4 W	T 8/4
Speedometer lighting	1	BA 9 s	14 V	4 W	
Interior lamps	2	Festoon	12 V	7 W	
Boot lamp	1	Festoon	12 V	5 W	C 11
Lighting for heating control, ashtray, cigar-lighter	3	Wedge base dia. = 5 mm	12 V	1.2 W	
Dashboard warning lamps	2				
Dashboard warning lamps	18				
Switch warning lamps	2				

LIST OF WIRING HARNESS

- | | |
|--|---|
| A : Front | M : Engine |
| B : Boot locking, intermediate | P : Interior lamp |
| C : Heater unit | R : Ribbon shaped (rear) |
| D : Diagnostic | S : Radio |
| E : Windscreen wiper and dashboard | U : Front brakes pad wear |
| F : Ribbon-type, between rear lamps | V : Tailgate, R.H. (rear window wiper) |
| G : Tailgate, L.H. | W : Tailgate, R.H., intermediate |
| H : Passenger compartment | Z : Transistorized ignition |
| J : Petrol gauge | |

Ident. mark	Description	Position	Ident. mark	Description	Position
1	R.H. front direction indicator	40		Clock	90
2	R.H. headlamp : Sidelamp	98		Engine oil level indicator	24-25
	Main and dipped beams	101 - 102		Petrol gauge :	17
3	Water level switch	29		Tachometer	9
4	Electrical fan double thermal switch	13 - 14		Warning lamp for battery charge	11
5	Electric cooling fan	15		Warning lamp for petrol min. level in tank	16
6	Cooling fan resistor	15		Warning lamp for water temperature	22
7	L.H. headlamp : Side lamp	97		Warning lamp for front brake pad wear	31
	Main and dipped beams	99 - 100		Warning lamp for emergency stop and "STOP" check-button	24 - 25 - 27 - 30
8	Connection block for L.H. direction indicator repeater	42		Warning lamp for hydraulic fluid (pressure and level)	28
9	L.H. front direction indicator	41		Warning lamp for engine oil pressure	26
10	Connection block for R.H. direction indicator repeater	39		Warning lamp for coolant level	29
11	Starter	2 to 4	54	Anti-theft switch	3 - 7 - 36 - 55
12	Horn	50	55	Lighting rheostat (via anti-theft switch)	78
13	Alternator with integrated regulator	7 to 11	56	Stoplamp switch (braking)	74
14	Hydraulic fluid level switch	28	57	L.H. loudspeaker	89
15	Engine oil pressure switch	26	58	L.H. control unit : Lighting	92 to 99
16	Idle cut off	13		Direction indicators	40 - 41
17	Water temperature warning switch	22	59	Electronic unit for engine oil level	23 to 25
18	Coolant temperature warning switch (flasher)	21	60	L.H. front door switch	81
19	Reversing lamp switch	12	61	Motor for L.H. front window winder	62 to 64
20	Battery	1	62	Electronic unit for L.H. front door locking device	103 - 104
21	Connection block for econoscope sensor	19	63	L.H. interior lamp	81
22	L.H. front brake unit (wear)	30	64	Switch for L.H. front door locking system	32
23	R.H. front brake unit (wear)	31	65	R.H. interior lamp	83
24	Ignition sparking plug	4 to 8	66	Motor for R.H. rear window winder	71 to 73
25	Distributor	4 to 8	67	Motor for R.H. rear door locking device	107
26	T.D.C. sensor (diagnostic)	6	68	Switch for R.H. rear door locking system	34
27	« Diagnostic » socket	4	69	« Handbrake on » switch	39
28	Ignition coil	6 to 8	70	R.H. rear window winder switch	71 to 73
29	Rear window washer pump	61	71	L.H. front window winder switch	62 to 64
30	Engine oil level sensor	23 - 24	72	R.H. front window winder switch	65 to 68
31	Ignition electronic unit (module)	6 to 8	73	L.H. rear window winder switch	68 to 70
32	Windscreen washer pump	56	74	Petrol gauge rheostat	16 - 17
33	Hydraulic fluid pressure switch	27	75	Motor for L.H. rear window winder	68 to 70
34	Windscreen wiper motor	51 to 55	76	Motor for L.H. rear door locking device	104
35	Connection box (see detail)		77	Boot lighting	85
36	Double loudspeaker "BOOMER"	87 - 88	78	Switch for L.H. rear door locking system	33
37	R.H. front door switch	82	79	R.H. rear lamp cluster : Tail lamp	97
38	Loudspeaker, R.H. side	86		Stoplamp, fog lamp	75 - 92
39	Motor for R.H. front window winder	65 to 67		Reversing lamp - Direction indicator	13 - 44
40	R.H. front door locking system unit	107-108	80	R.H. number plate lighting	95
41	Rear window wiper timer unit	58-59	81	Heated rear window	49
42	Contact switch for front door locking system, R.H. side	35	82	Motor for tailgate locking device	105
43	Glove compartment lighting	83	83	Motor for rear window wiper	57 to 59
44	Electronic unit for door locking device	103-109	84	L.H. number plate lighting	94
45	Ashtray lighting	78	85	Boot lighting switch	85
46	Cigar-lighter and lighting	79 - 80	86	L.H. rear lamp cluster : Tail lamp	96
47	Air blower resistors	36 - 37		Stoplamp - Fog lamp	74 - 91
48	Air blower	36		Reversing lamp - Direction indicator	12 - 43
49	Air blower control and lighting	36-37-75 to 77			
50	Radio connections	86 to 89			
51	R.H. control unit : horn	50			
	Windscreen washer and wiper	53 to 56			
	Heated rear window	46 to 48			
	Hazard warning device	42 to 45			
52	Warning temperature flasher	20-21			
53	Instrument panel : Lighting	77 - 78			
	Indicator lamp for main beams	95	m1	Earth for R.H. front brake pad wear	31
	Indicator lamp for dipped beams	94	m2	Battery earth on bodyshell	1
	Warning lamp for side and tail lamps	93	m3	Earth for L.H. front brake pad wear	30
	Warning lamp for direction indicator (flasher)	38	m4	Earth for connection box and dashboard	9-69-87
	Warning lamp for rear fog lamps	92	m5	Earth on console	67
	Warning lamp for door locking device	32 to 35	m6	Earth on the upper part of the windscreen frame	83
	« Handbrake on » warning lamp	39	m7	R.H. rear earthing (rear window wiper)	59
			m8	L.H. rear earthing : heated rear window, boot lighting	49 - 85
				R.H. and L.H. rear lamps	12-43-74-91-96

Earthing points

Ident. mark	Description	Position	Ident. mark	Description	Position
1	R.H. front direction indicator	40		Clock	90
2	R.H. headlamp : Sidelamp	98		Engine oil level indicator	24-25
	Main and dipped beams	101 - 102		Petrol gauge	17
3	Water level switch	29		Tachometer	9
4	Electrical fan double thermal switch	13 - 14		Warning lamp for battery charge	11
5	Electric cooling fan	15		Warning lamp for petrol min. level in tank	16
6	Cooling fan resistor	15		Warning lamp for water temperature	22
7	L.H. headlamp : Side lamp	97		Warning lamp for front brake pad wear	31
	Main and dipped beams	99 - 100		Warning lamp for emergency stop and "STOP" check-button	24 - 25 - 27 - 30
8	Connection block for L.H. direction indicator repeater	42		Warning lamp for hydraulic fluid (pressure and level)	28
9	L.H. front direction indicator	41		Warning lamp for engine oil pressure	26
10	Connection block for R.H. direction indicator repeater	39		Warning lamp for coolant level	29
11	Starter	2 to 4	54	Anti-theft switch	3 - 7 - 36 - 55
12	Horn	50	55	Lighting rheostat (via anti-theft switch)	78
13	Alternator with integrated regulator	7 to 11	56	Stoplamp switch (braking)	74
14	Hydraulic fluid level switch	28	57	L.H. loudspeaker	89
15	Engine oil pressure switch	26	58	L.H. control unit : Lighting	92 to 99
16	Idle cut off	13		Direction indicators	40 - 41
17	Water temperature warning switch	22	59	Electronic unit for engine oil level	23 to 25
18	Coolant temperature warning switch (flasher)	21	60	L.H. front door switch	81
19	Reversing lamp switch	12	61	Motor for L.H. front window winder	62 to 64
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25	Distributor	4 to 8	67	Motor for R.H. rear door locking device	107
26	T.D.C. sensor (diagnostic)	6	68	Switch for R.H. rear door locking system	34
27	« Diagnostic » socket	4	69	« Handbrake on » switch	39
28	Ignition coil	6 to 8	70	R.H. rear window winder switch	71 to 73
29	Rear window washer pump	61	71	L.H. front window winder switch	62 to 64
30	Engine oil level sensor	23 - 24	72	R.H. front window winder switch	65 to 68
31	Ignition electronic unit (module)	6 to 8	73	L.H. rear window winder switch	68 to 70
32	Windscreen washer pump	56	74	Petrol gauge rheostat	16 - 17
33	Hydraulic fluid pressure switch	27	75	Motor for L.H. rear window winder	68 to 70
34	Windscreen wiper motor	51 to 55	76	Motor for L.H. rear door locking device	104
35	Connection box	(see detail)	77	Boot lighting	85
36	Double loudspeaker "BOOMER"	87 - 88	78	Switch for L.H. rear door locking system	33
37	R.H. front door switch	82	79	R.H. rear lamp cluster : Tail lamp	97
38	Loudspeaker, R.H. side	86		Stoplamp, fog lamp	75 - 92
39	Motor for R.H. front window winder	65 to 67	80	Reversing lamp - Direction indicator	13 - 44
40	R.H. front door locking system unit	107-108	81	R.H. number plate lighting	95
41	Rear window wiper timer unit	58-59	82	Heated rear window	49
42	Contact switch for front door locking system, R.H. side	35	83	Motor for tailgate locking device	105
43	Glove compartment lighting	83	84	Motor for rear window wiper	57 to 59
44	Electronic unit for door locking device	103-109	85	L.H. number plate lighting	94
45	Ashtray lighting	78	86	Boot lighting switch	85
46	Cigar-lighter and lighting	79 - 80		L.H. rear lamp cluster : Tail lamp	96
47	Air blower resistors	36 - 37		Stoplamp - Fog lamp	74 - 91
48	Air blower	36		Reversing lamp - Direction indicator	12 - 43
49	Air blower control and lighting	36-37-75 to 77			
50	Radio connections	86 to 89			
51	R.H. control unit : horn	50			
	Windscreen washer and wiper	53 to 56			
	Heated rear window	46 to 48			
	Hazard warning device	42 to 45			
52	Warning temperature flasher	20-21			
53	Instrument panel : Lighting	77 - 78			
	Indicator lamp for main beams	95	m1	Earth for R.H. front brake pad wear	31
	Indicator lamp for dipped beams	94	m2	Battery earth on bodyshell	1
	Warning lamp for side and tail lamps.	93	m3	Earth for L.H. front brake pad wear	30
	Warning lamp for direction indicator (flasher).	38	m4	Earth for connection box and dashboard	9-69-87
	Warning lamp for rear fog lamps	92	m5	Earth on console	67
	Warning lamp for door locking device.	32 to 35	m6	Earth on the upper part of the windscreen frame	83
	« Handbrake on » warning lamp	39	m7	R.H. rear earthing (rear window wiper)	59
			m8	L.H. rear earthing : heated rear window, boot lighting	49 - 85
				R.H. and L.H. rear lamps	12-43-74-91-96

Earthing points

CHARGING CIRCUIT CHARACTERISTICS
AND CHECKS

CHARACTERISTICS.

Alternator : Class 5 (50 A - 750 W approx.)
Integral electronic regulator type, with charge detection.



(Melco) A 002 T 26 391 (page 3)

Manufacturers and references

BOSCH A 120 427 141 (page 4)

« Poly-V » belt transmission.
Gear ratio : alternator/engine : 2.2/1.

Regulator only : Melco : A 866 T 03 870
Bosch :

Battery :
12 volts 225/45 Ah Type : L 2

CHECKS.**Testing the alternator output :**

At 13,5 volts : 32 amps minimum at 2,000 rpm alternator (900 rpm engine speed)
 : 47 amps minimum at 4,000 rpm alternator (1,800 rpm engine speed)

Regulated voltage test :

With the alternator warm : between 13.8 and 14.5 V
(With the alternator cold : between 14.7 and 14.8 V. approximately).

NOTE : Concerning the reconditioning of the alternator shown opposite :

The regulator is integrated in the rear bearing.

The little hole, located above the alternator shaft, is used for holding, with the help of the proper rod, the brushes in position during the fitting and removal operations.



REGULATOR REMOVAL AND FITTING



REMOVAL.

Remove the three securing screws (1) : **Fig. I**

Separate the front bearing from the rest of the alternator : **Fig. II.**

Insert a screwdriver (3) into the slots between front bearing (2) and stator (4).

Exert force to disunite the two elements.

Avoid damaging stator coil (5) with the screwdriver extremity : Fig. III.

Separate the stator from the rear bearing : **Fig. IV.**

Insert a screwdriver (3) into the slots between stator (4) and rear bearing (6) and exert force in order to disunite the two components.

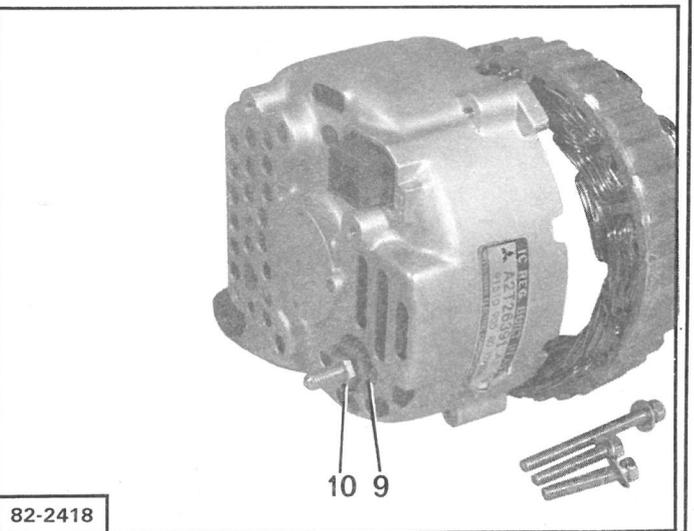
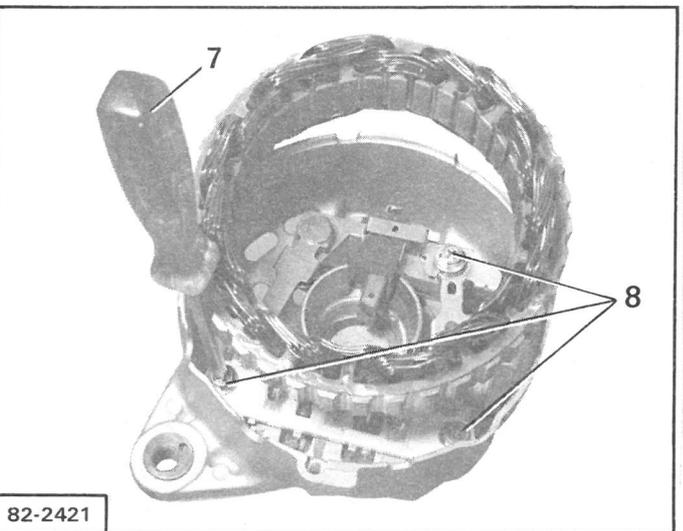
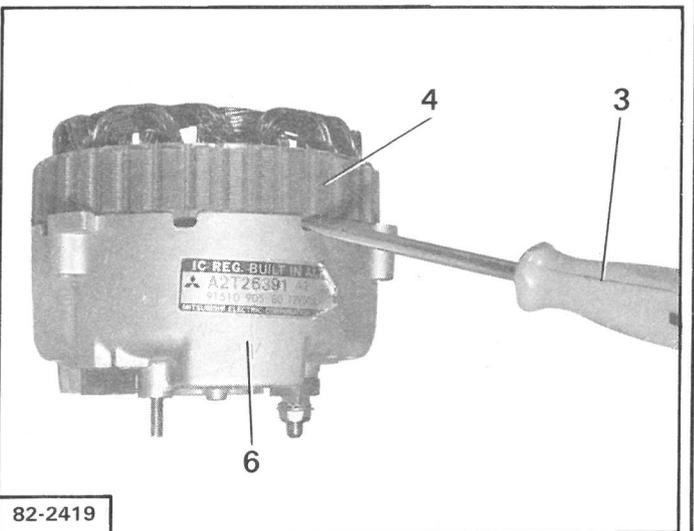
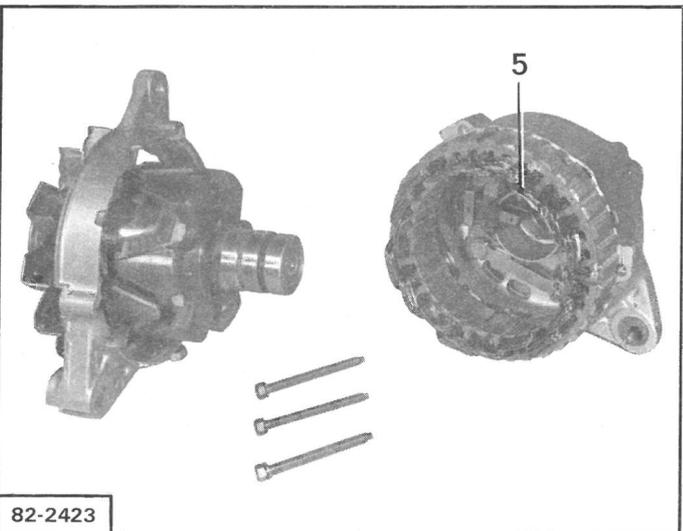
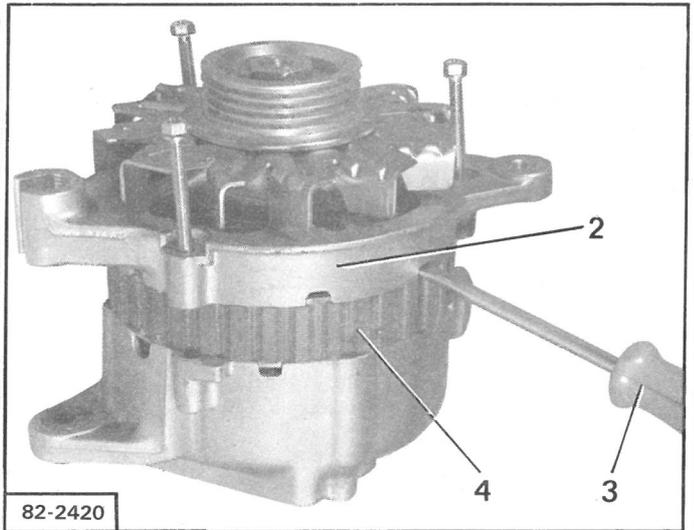
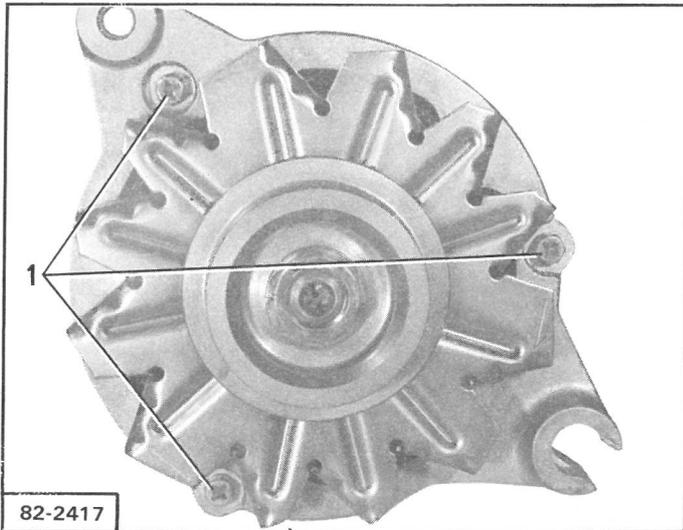
Lift the stator and let it slide sideways away from the rear bearing, so as to insert a screwdriver (7) : **Fig. V.**

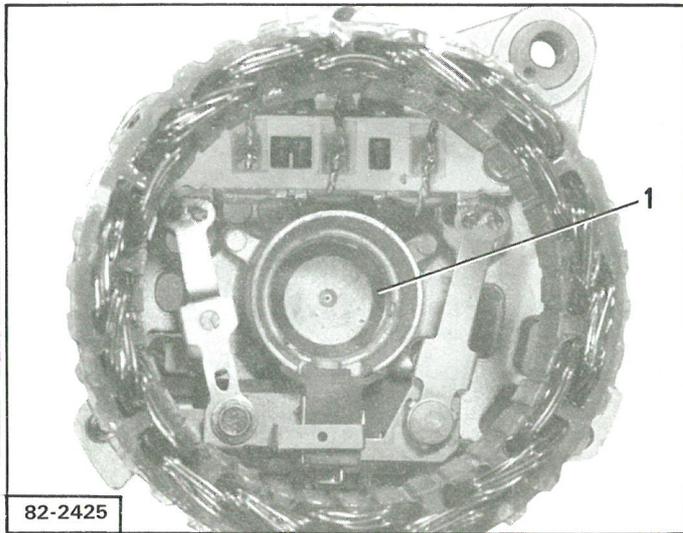
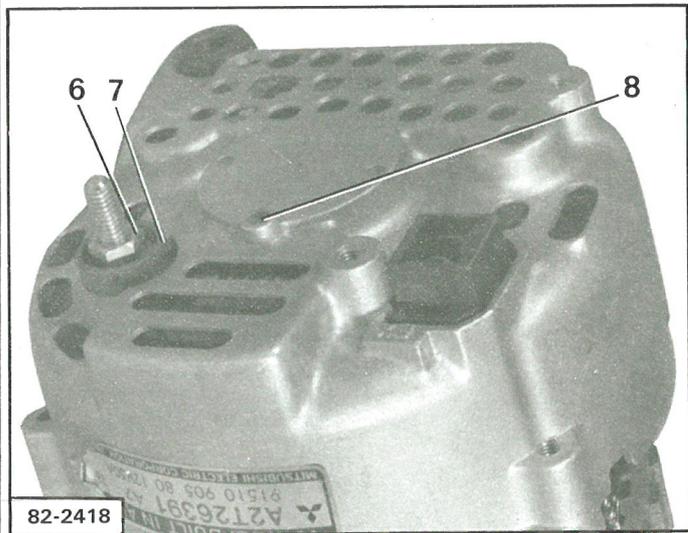
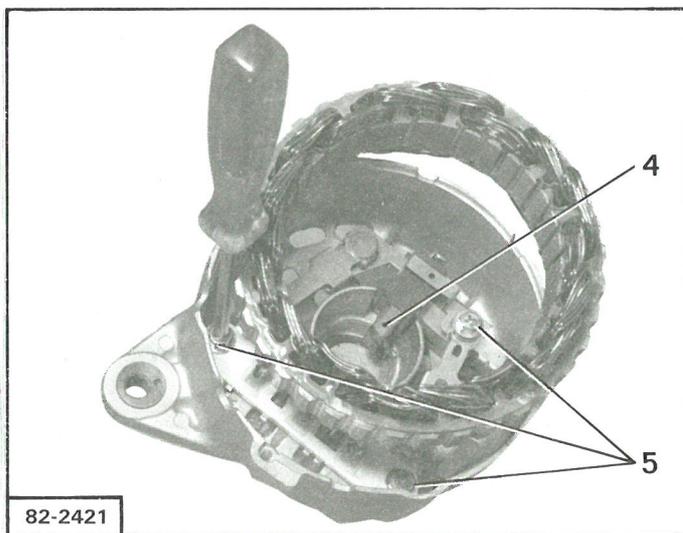
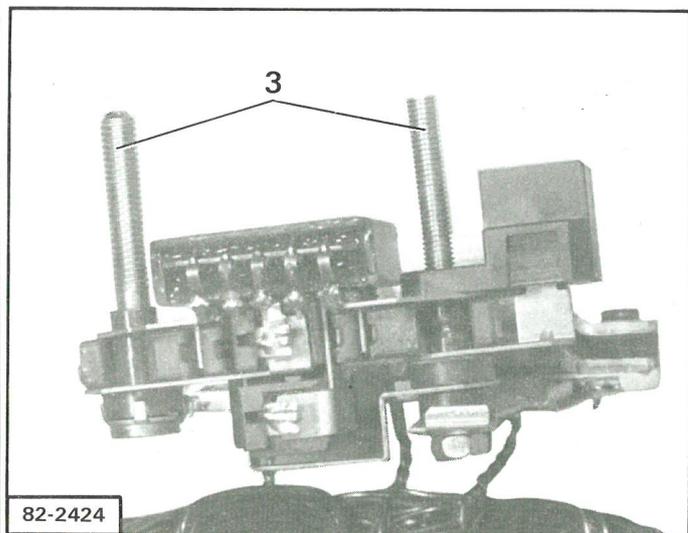
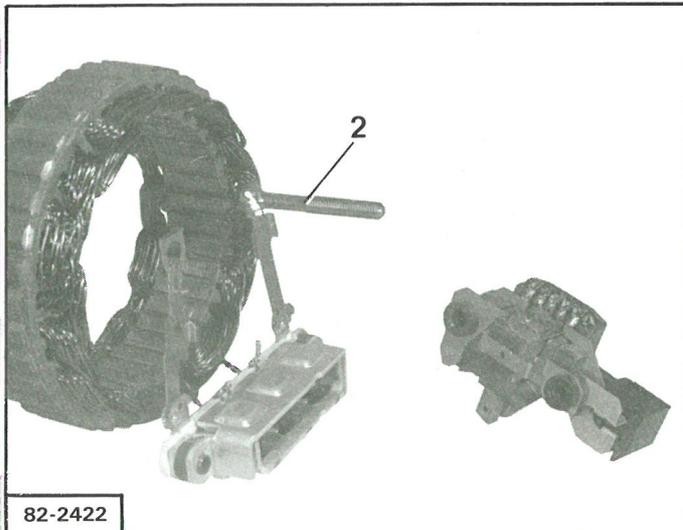
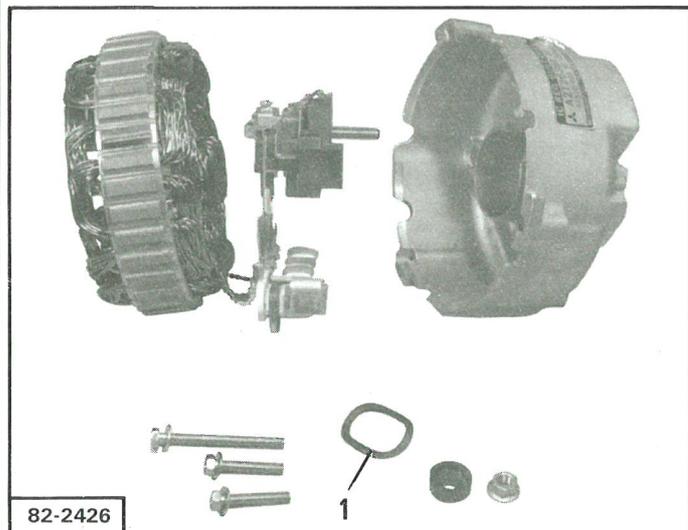
Remove the 3 screws (8).

The 3 leads connecting the stator to the rectifier (diode rectifier bridge) should not be unwelded.

Pull nut (10) out of terminal «+ » and also insulating bracket (9) : **Fig. VI.**

Withdraw the stator and rear bearing rectifier assembly.





When dismantling, take care not to lose corrugated washer (1) : **Fig. I.**
Release the regulator by sliding it along rod (2) : **Fig. II.**
If brushes are worn, unweld the lead of each brush before replacing the brushes.

FITTING.

Fit the regulator on the 2 screwed spindles (3) respecting the position of the insulating washers : **Fig. III**
Fit the stator and rectifier unit on rear bearing : **Fig. I.**
Install the 3 screws (5) and tighten them : **Fig. IV.**
Put into place insulating washer (7) and nut (6) of rear bearing « + » terminal : **Fig. V**
Insert a rod, dia. = 1.5 mm approx. into hole (8) of rear bearing.
Compress brushes until rod passes through the holes of each brush (4).
Thus the brushes are locked and set back from rear bearing.
Lubricate corrugated washer (1) and fit it into rear bearing : **Fig. VI**
Assemble front bearing and tighten the 3 securing screws.

*STARTER MOTOR CHARACTERISTICS
AND CHECKS*

CHARACTERISTICS.**Starter motor :** Class 2

Manufacturers and references : DUCELLIER 534 039
PARIS-RHONE D 9 E 48
BOSCH A 001 208 316 F

Solenoid positive control type.

Drive gear : 9 teeth module 2.116/1.814.

CHECKING.

Use a fully charged battery (45 Ah).

Starter motor :

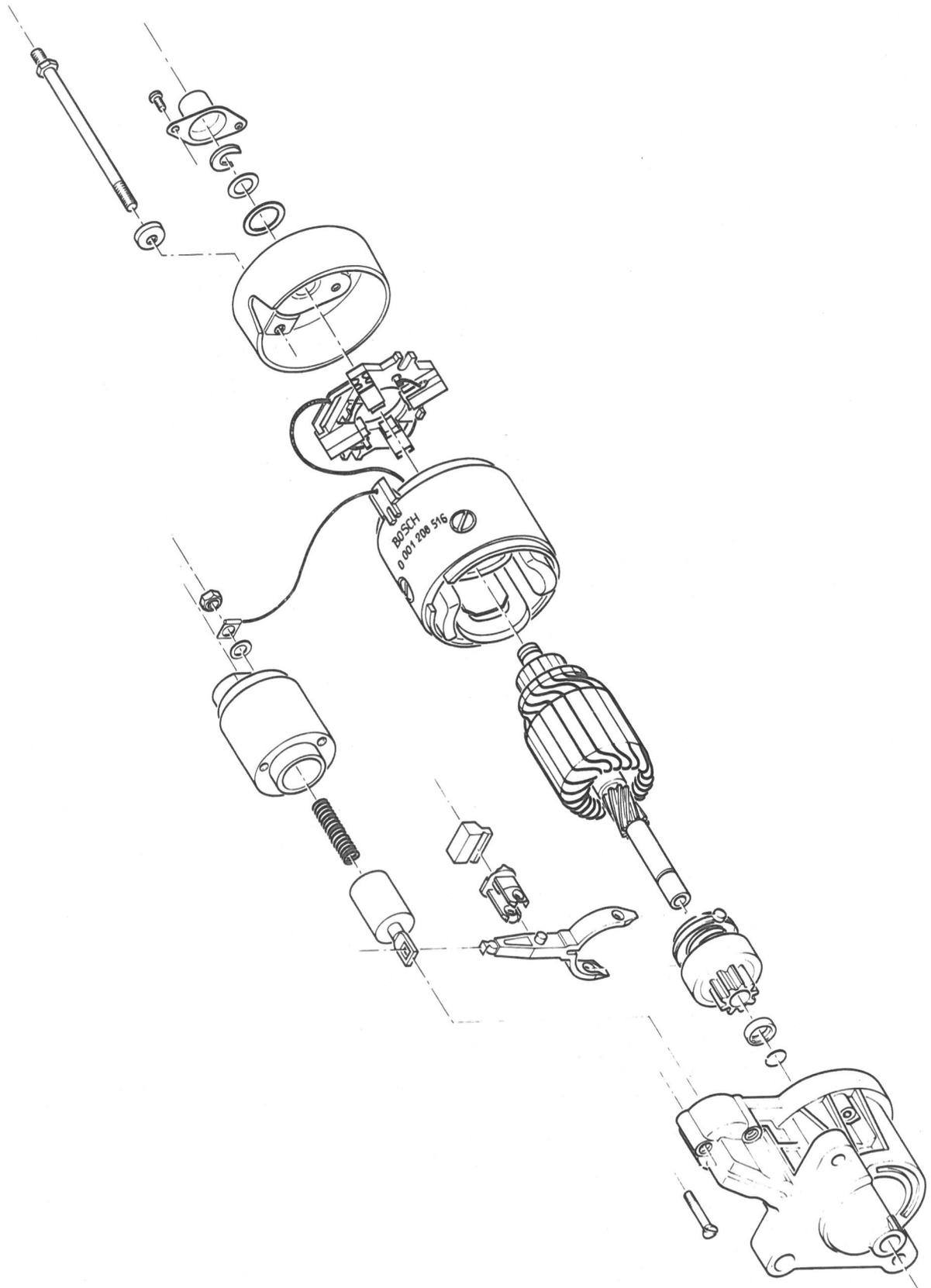
- Locked torque : 8.5 Nm minimum
for a maximum current of : 350 Amperes

- Rotating peak : 1200 rpm
Torque : 4.5 Nm minimum
for a maximum current of : 220 Amperes

- Off-load speed under : 8500 rpm

Solenoid :

- Sollicited current (command and hold) : 30 A max.
- Hold current : 8.5 A max.



BX. 53-6

Operation number	DESCRIPTION
XB. 640-00	Air circuits for heating and ventilation
XB. 641-1	Removing and fitting the heater unit
XB. 641-4	Removing and fitting the heater radiator
XB. 641-7	Removing and fitting the air blower



AIR CIRCUITS FOR HEATING AND
VENTILATION

HEATING AND VENTILATION DISTRIBUTION UNIT.

Comprising :

- A ram air inlet and a 3-speed electric air blower,
- An adjusting lever : « Cold-Warm »,
- An air distributor : « Up-Down »,
- Various flaps for output or direction.

The heating water circuit includes an « aérotherme » radiator with an inlet tap.

1 - Side vents : for ram air on All-type vehicles and, for blown air on BX 16 TRS vehicles only.

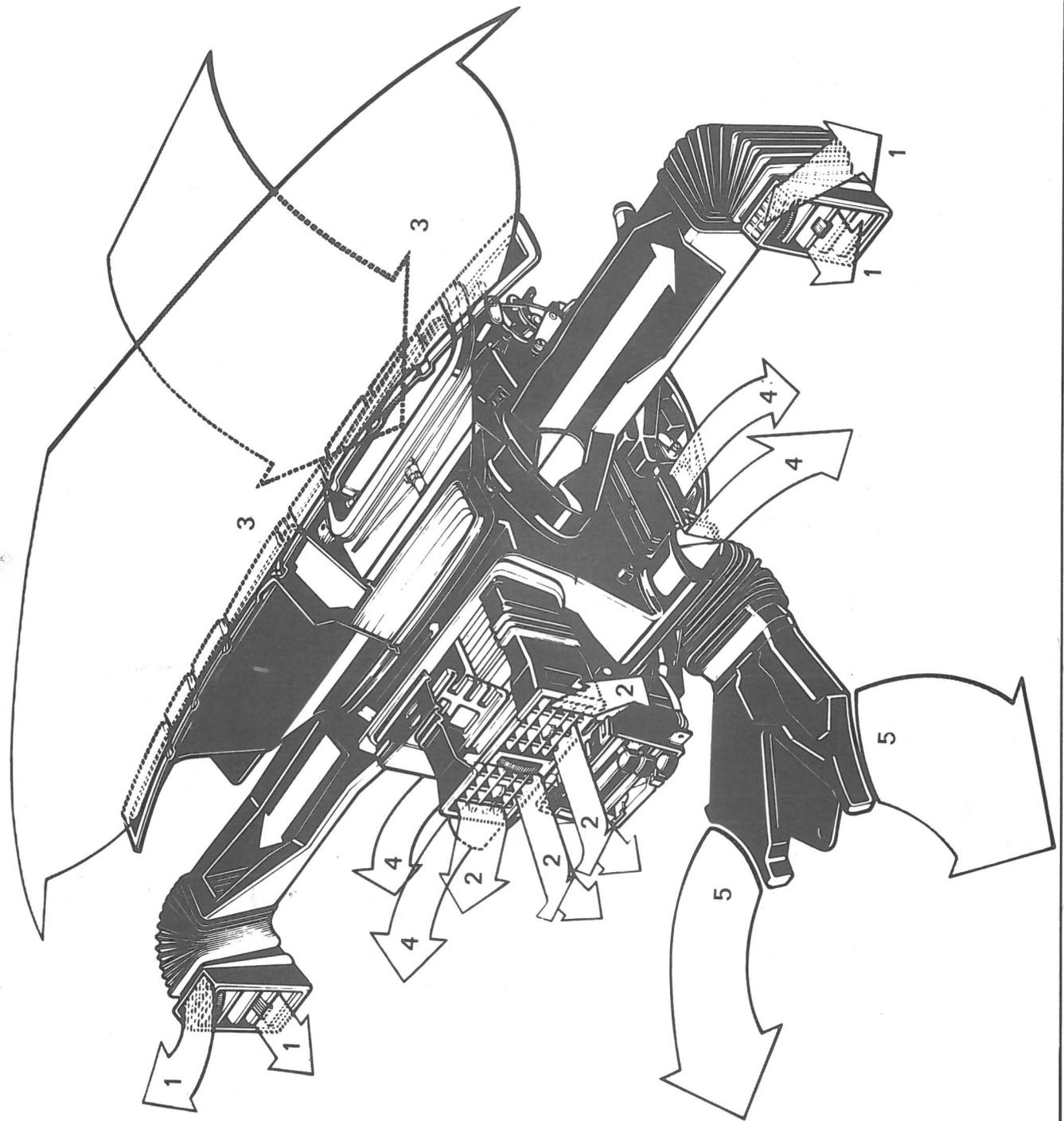
2 - Central vents

3 - Defrosting outlet

4 - Lower outlets for front passengers

5 - Lower outlets for rear passengers

} Ram air
or
blown air



BX. 64-1

REMOVING AND FITTING THE HEATER
UNIT

REMOVAL.

Drain the vehicle cooling circuit.
Disconnect the battery.

Fig. I Remove screws (1) and (2) and also the screw located at « a ».

Fig. II Remove screws (4) and take off the glove compartment lid together with the R. H. lower finishing panel of the dashboard.

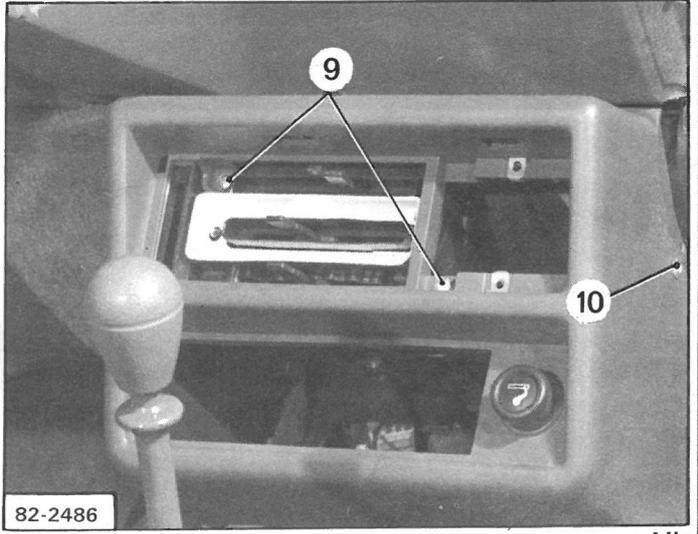
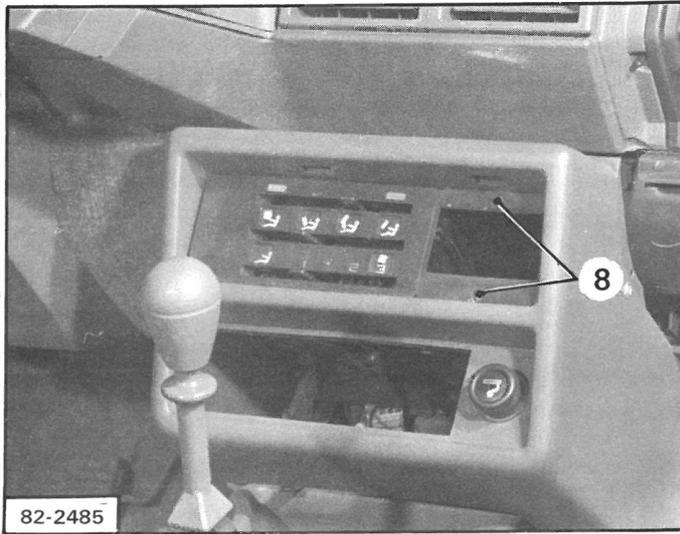
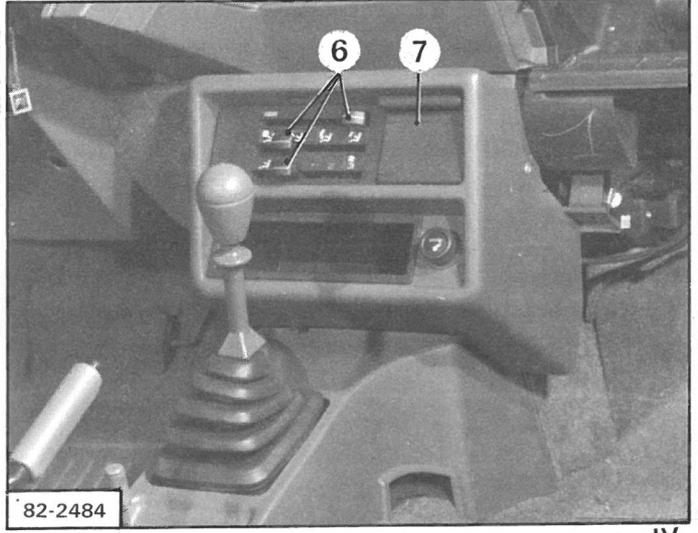
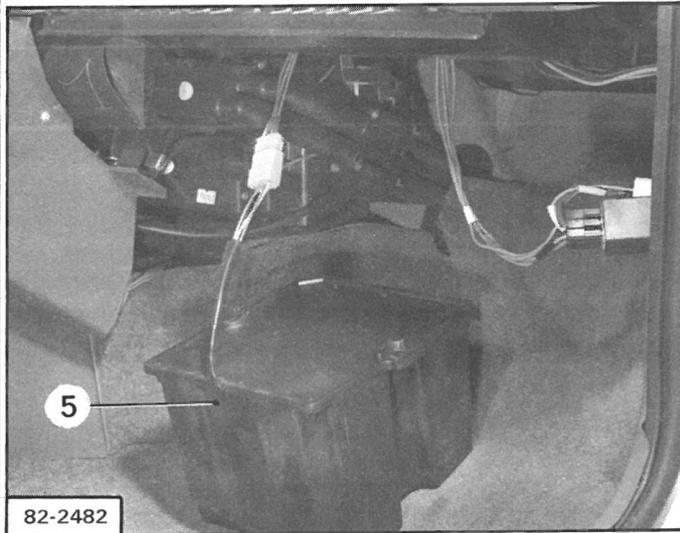
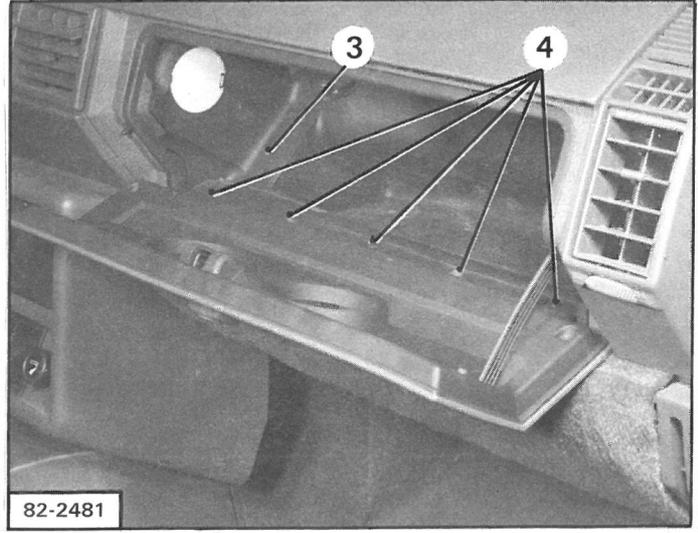
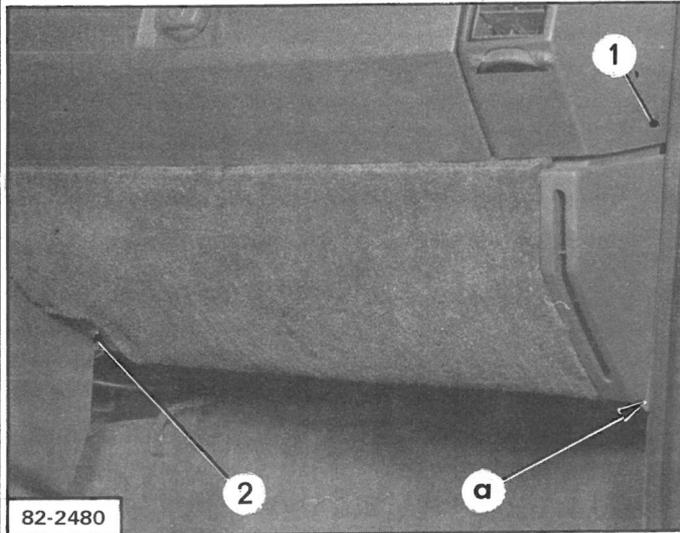
Remove screw (3) securing the heater unit.

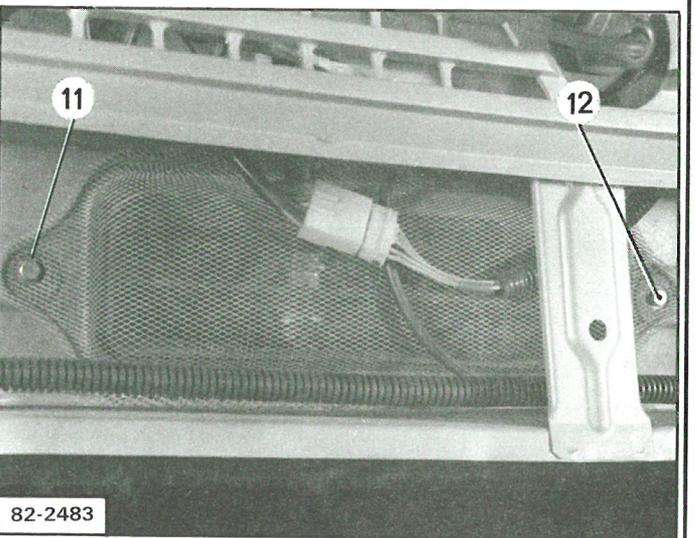
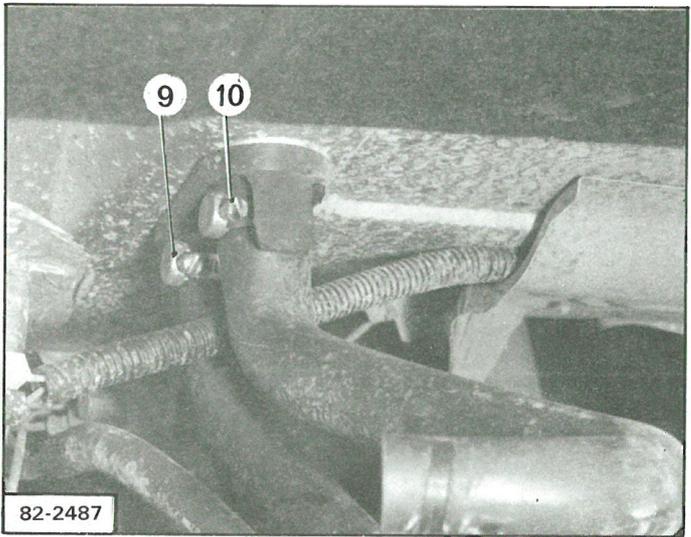
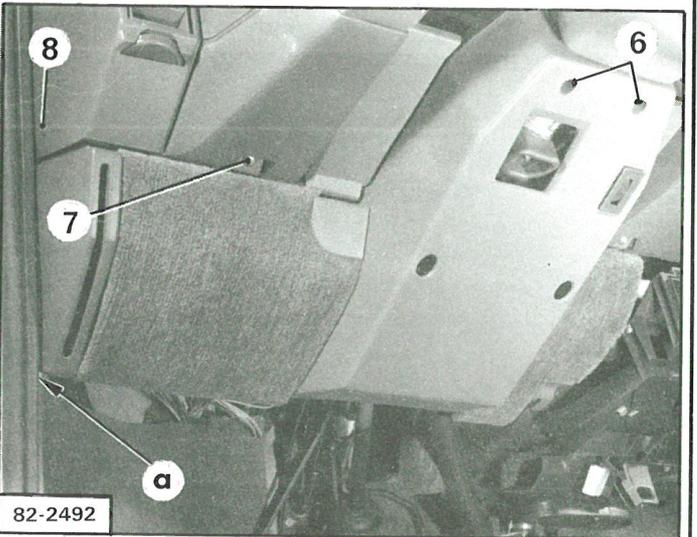
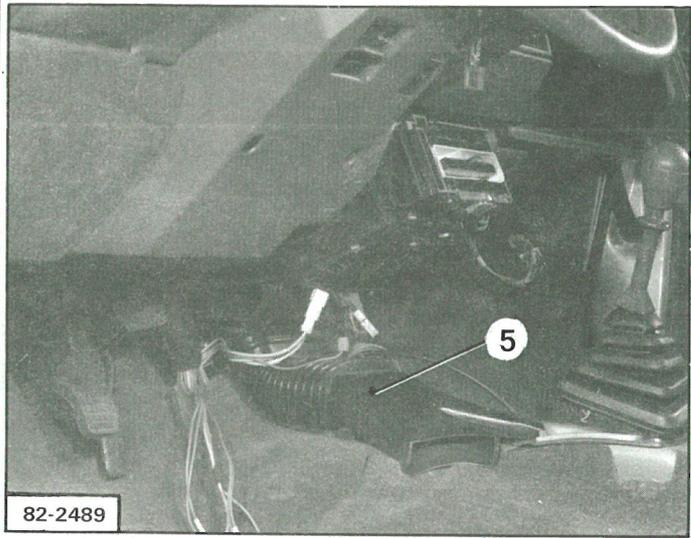
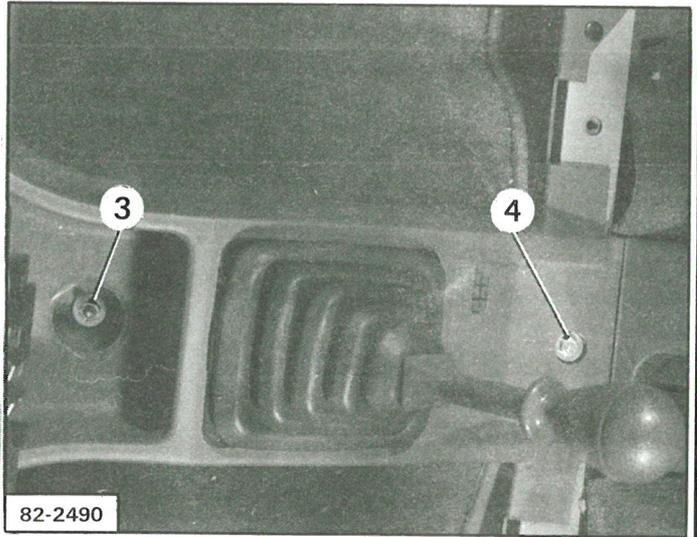
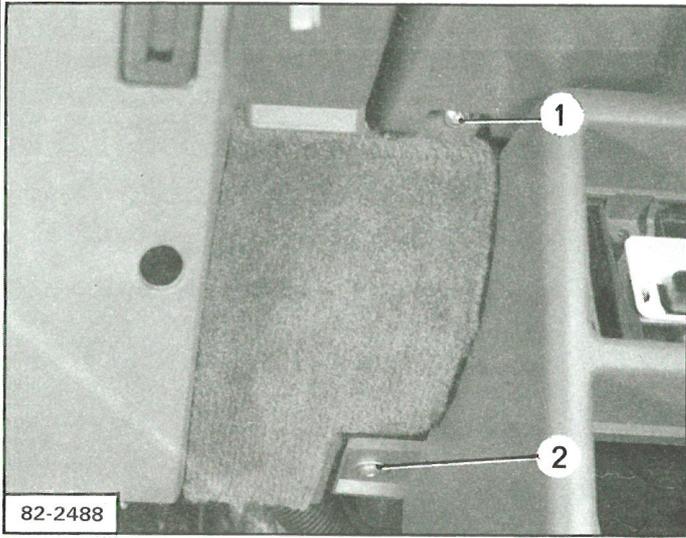
Fig. III Remove, depending on equipment, boomer unit (5) and disconnect it from the radio wiring harness.

Fig. IV Remove heating control buttons (6) by pulling them off.
Remove ashtray (7).

Fig. V Remove screws (8) and take off the ashtray support.
Remove the heating control mounting plate.
Remove the radio-set housing or, depending on equipment, the radio set.

Fig. VI Remove screws (9) securing the façade.
Remove screws (10).





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Fig. I Remove screws (2).

Take off the heater unit façade.
Remove both lamps, of heating control and ashtray.

Disconnect the cigar lighter and its lamp.

Disconnect, depending on equipment, the electronic unit for door locking.

Remove the façade.

Remove screw (1) securing L.H. lower finishing panel.

Fig. II Remove the blanking plugs from the console front section and remove nut (3) and screw (4).

Take off the two plastic dowels securing the console to the heater unit.

Free the gear lever rubber dust cover.

Pull the handbrake lever.

Remove the console front section.

Fig. III Remove heating nozzle (5) for rear of passenger compartment.

Fig. IV Remove the two screws (6) securing the upper finishing cover for the steering column.

Remove the upper finishing cover.

The two screws (6) are still held captive by the L.H. lower finishing panel.

Remove screws (7) and (8) and the screw at « a ».

Put the L.H. lower finishing panel down onto the carpeting; depending on equipment it stays connected via the choke control.

Disconnect the connector and plug coupling the heater unit to the passenger-compartment wiring-harness.

Fig. V Loosen hose clamps (9) and (10) and disconnect the two water pipes of the heater unit.

Disengage the bonnet sealing rubber and disengage the plastic cover over the windscreen wiper motor.

Fig. VI Remove screws (11) and (12) and take off the heater unit air inlet grille.

Fig. I Remove nuts (1).

Fig. II Insert a screwdriver between a directional vent grille and its housing so as to take the vent grille out. Remove the two vent grilles.

Fig. III Introduce a screwdriver under the locking clips of the housing and free the latter.

Fig. IV Disengage the central vent surround and the grille.

Remove the water drain pipe of the heater unit from its housing in the floor.

Free, inside the scuttle panel, the rubber seal on the feed and return pipes of the heater.

Remove the heater unit, from the R.H. side, by disengaging the side vent ducts.

FITTING.

Engage the heater unit under the R.H. section of the dashboard.

Position the unit in the scuttle panel by engaging the radiator pipes.

Fig. I Fit nuts (1) and tighten them.

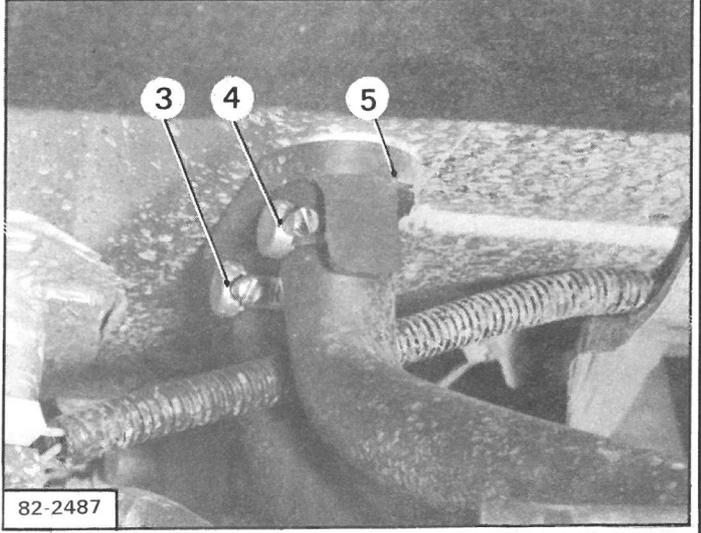
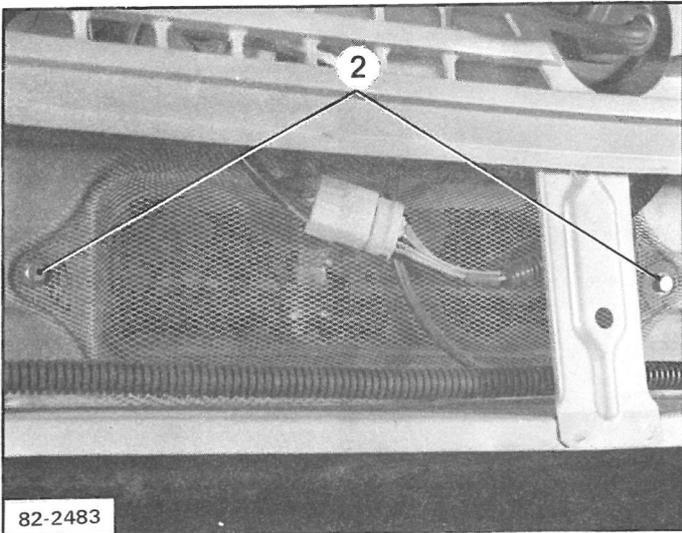
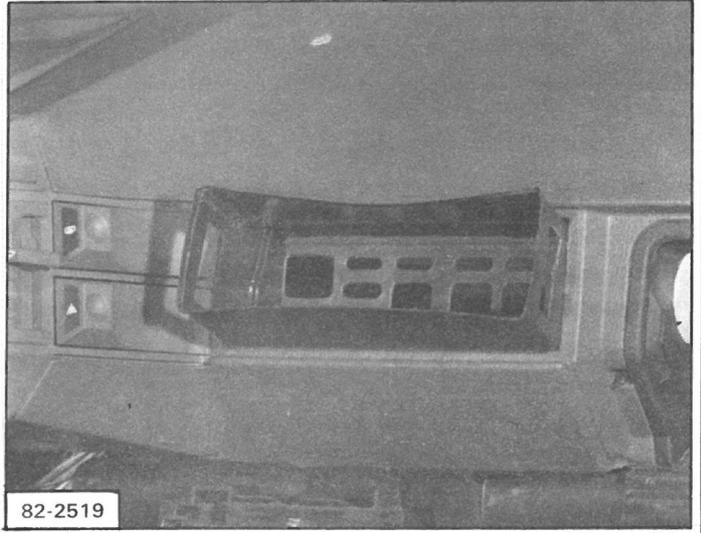
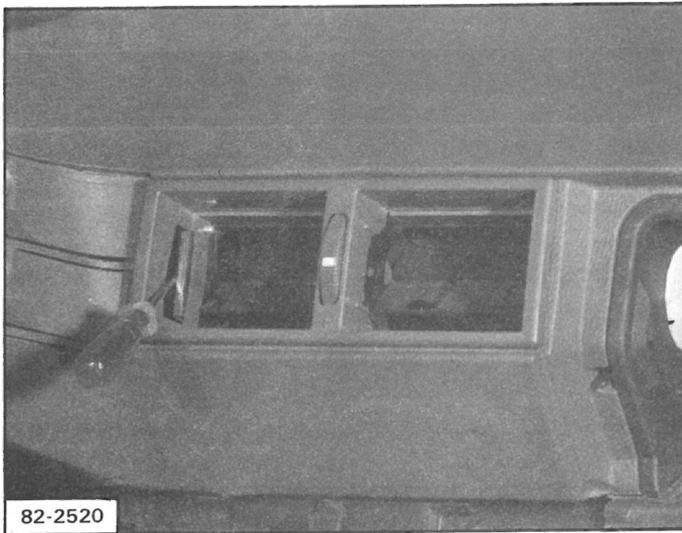
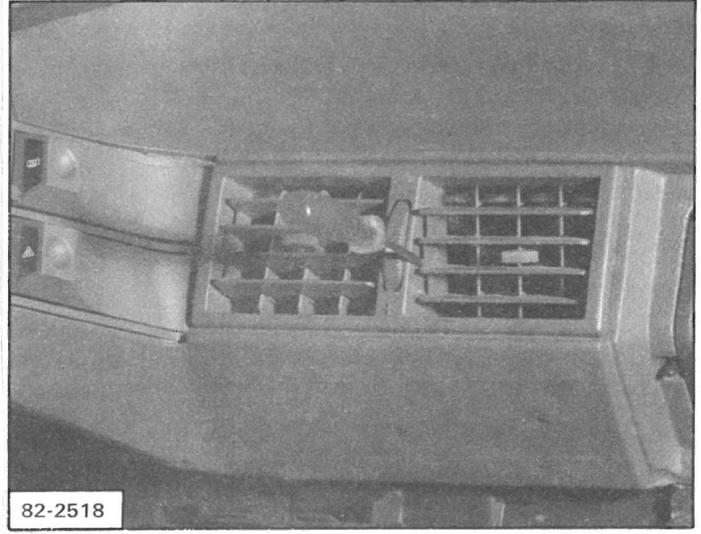
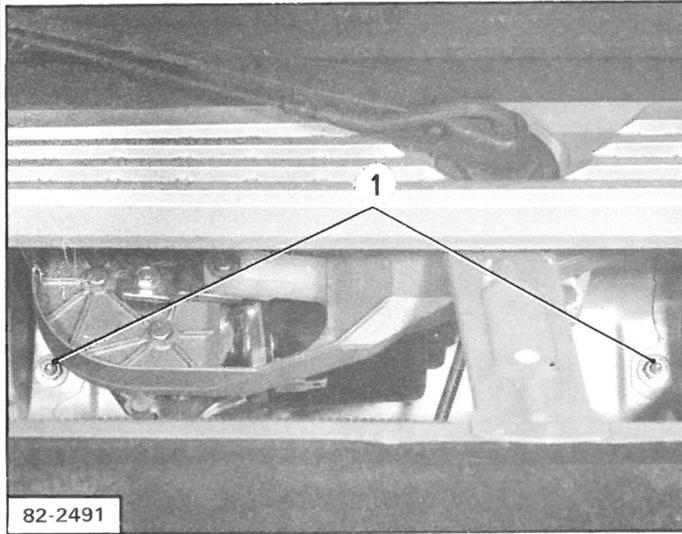
Fig. V Fit the air inlet grille. Fit screws (2) and tighten them.

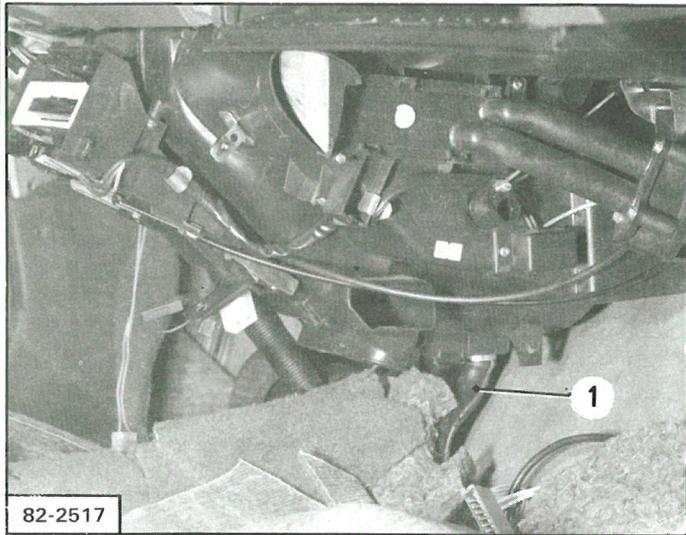
Fit the plastic protective cover over the windscreen motor.

Fit the bonnet seal.

Fig. VI Fit seal (5) in the scuttle panel.

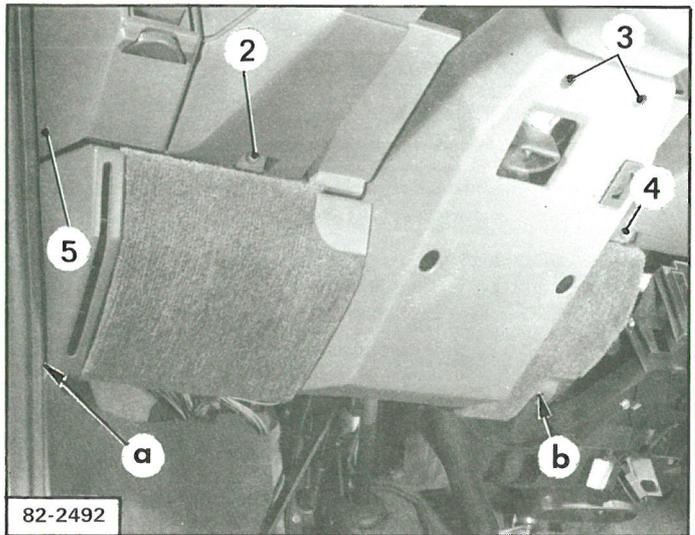
Fit the heating pipes and tighten clamps (3) and (4).





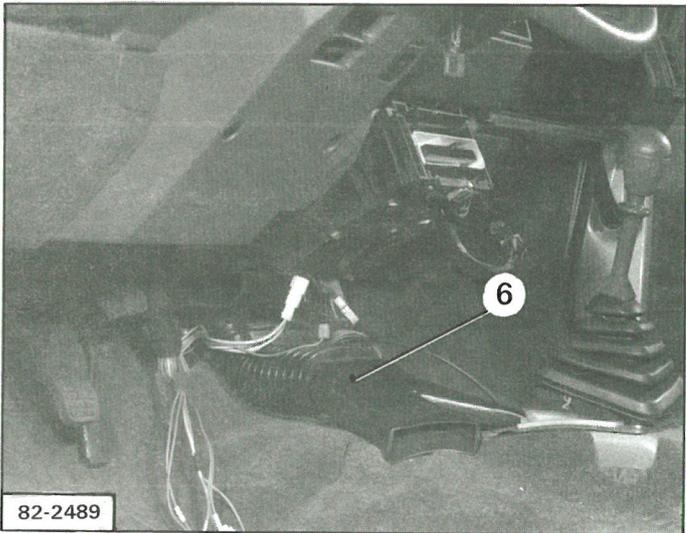
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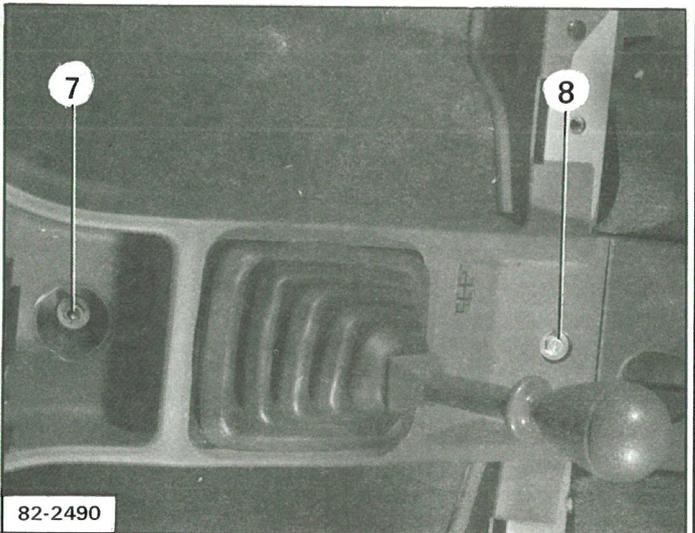
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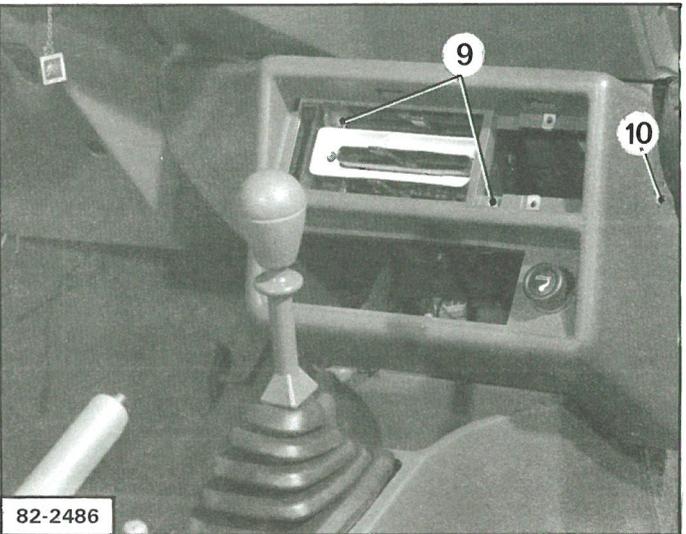
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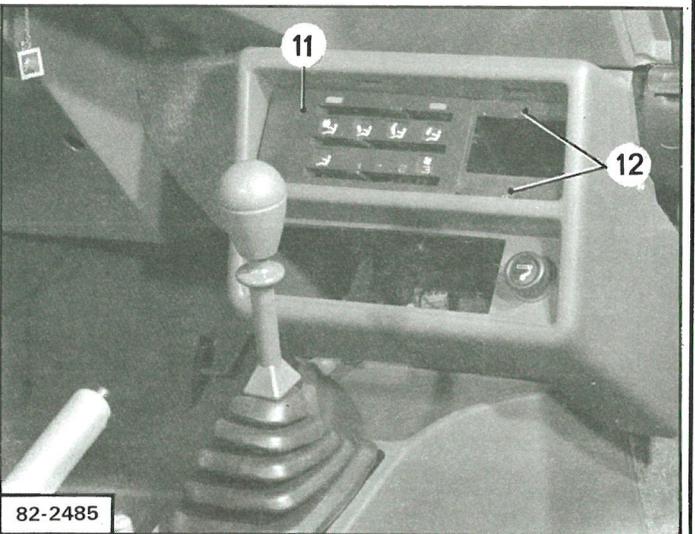
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IV



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VI

Fig. I Engage water drain pipe (1) in the floor.

Connect the connector and plug coupling the heater unit to the passenger compartment wiring harness.

Depending on equipment, fit the boomer unit and connect it to the radio wiring harness.

Fig. II : Fit the L.H. lower finishing panel of the dashboard.

Depending on equipment, connect the lead of the choke warning lamp.

Connect the lighting rheostat.

Fit screws (2), (4), (5) and also the screw at « a ».

Tighten the screws.

Fit the anti-theft rubber.

Fit the upper cover of the steering column and tighten screws (3).

Fig. III : Engage heating nozzle (6) under the unit.

Fig. IV : Fit the console front section.

Fit nut (7) and screw (8) and tighten them.

Fit, on either side, the plastic dowel securing the console to the heater unit.

Fit the blanking plugs over screw (8) and nut (7).

Fit the gear lever dust cover.

Fig. V : Fit the unit façade.

Connect the cigar lighter and its lamp.

Fit the two lamps, for the heating control and ashtray.

Connect, depending on equipment, the door locking unit.

Fit and tighten screws (9) and (10).

Fig. II : Fit the lower panel screw at « b ».

Fig. VI : Fit front plate (11).

Fit the ashtray housing.

Fit screws (12) and tighten them.

Fit the ashtray.

Depending on equipment, fit the radio set housing or the radio set.

Fit the three buttons on the heating control levers.

Through the central vent opening in dashboard, fit, depending on equipment, the air inlet ducts to the side vents.

Fig. I : Engage central vent flexible surround (1) into the dashboard.

Fig. II : Position the surround (1) so that recess « a » is upward and on L.H. side.

Engage grille (2) in surround (1) making sure peg « b » fits into recess « a ».

Fit the vent housing and the two directional vent grilles.

Fig. III and IV : Fit the dashboard L.H. lower finishing panel.

Fit and tighten screws (3) and (4) and screw at « c ». The latter makes fast the rear window wiper timer unit, depending on equipment.

Fit the glove compartment lid by engaging retaining strap (7) in the dashboard.

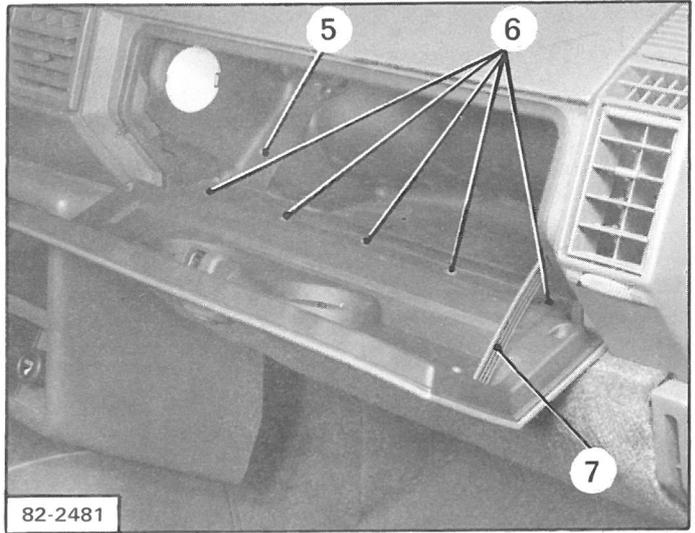
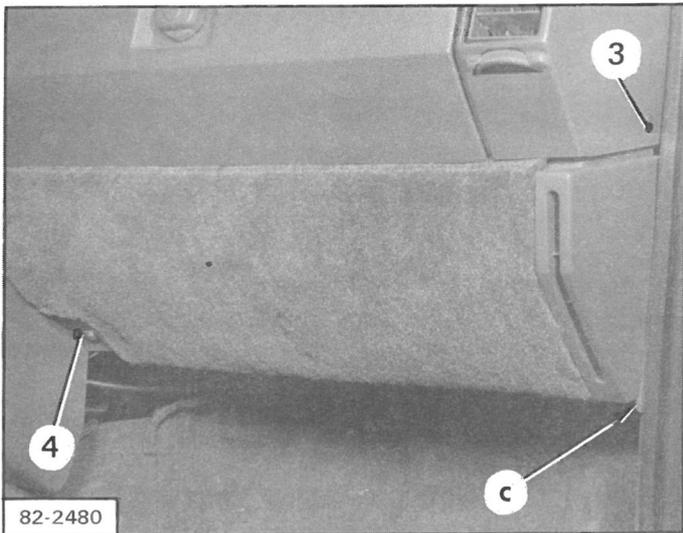
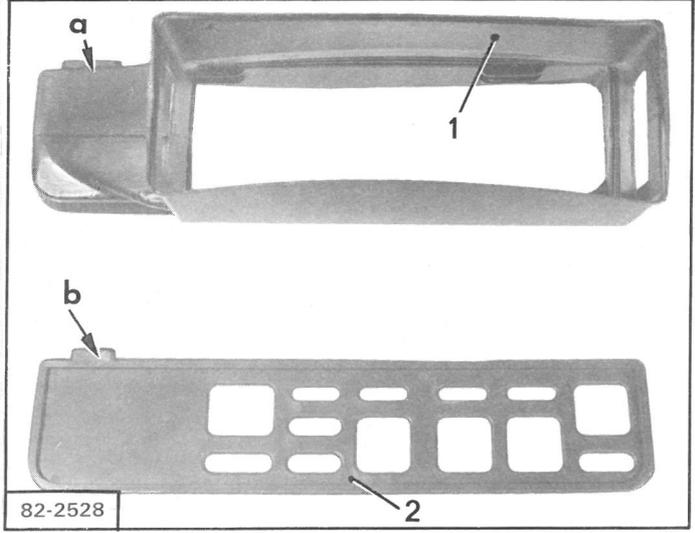
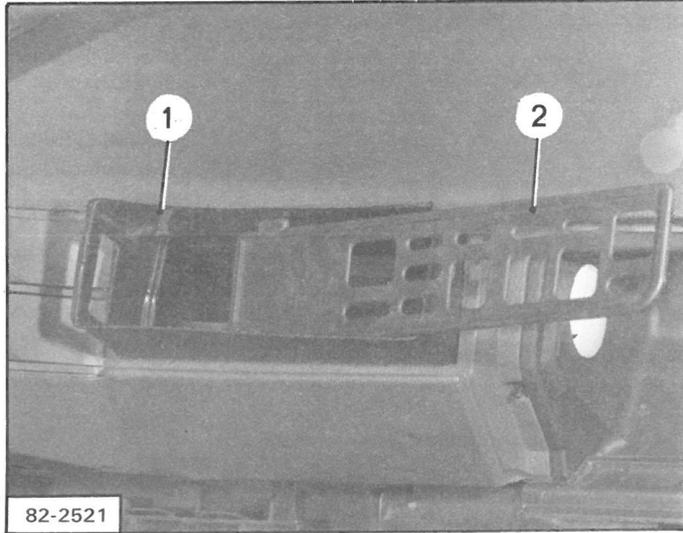
Fit screws (6) and do them up.

Shut the lid to check the alignment and the going-out of the lighting bulb. Adjust if necessary.

Tighten screws (6).

Fit and tighten screw (5).

Fill up the vehicle cooling circuit and bleed it (*see XB. 230-00*).



REMOVING AND FITTING THE HEATER
RADIATOR

REMOVAL.

Drain the cooling circuit.

Fig. I : Remove screws (1) and (2) as well as the screw located at « a ».

Fig. II : Remove screws (3) and take off the glove compartment lid, together with the R.H. lower finishing panel of dashboard.

Fig. III : Remove, depending on equipment, boomer unit (4) and disconnect it from the radio wiring harness.

Fig. IV : Remove the four screws (7) securing the heating tap on the radiator.

Remove the two screws (5) securing the radiator on the heater unit.

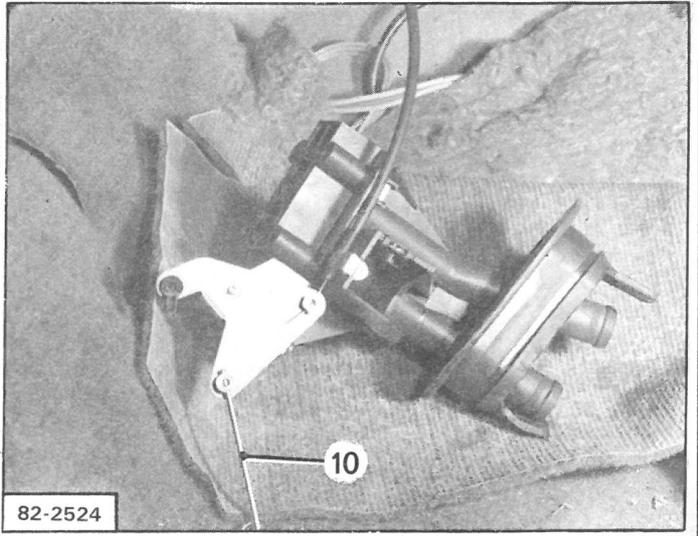
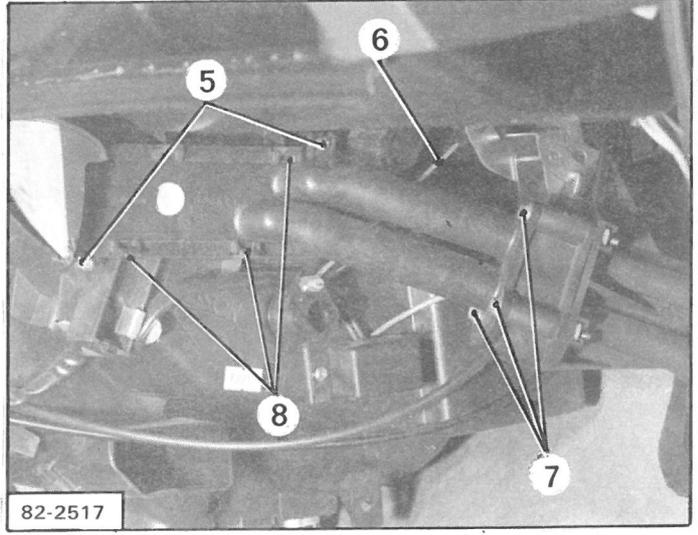
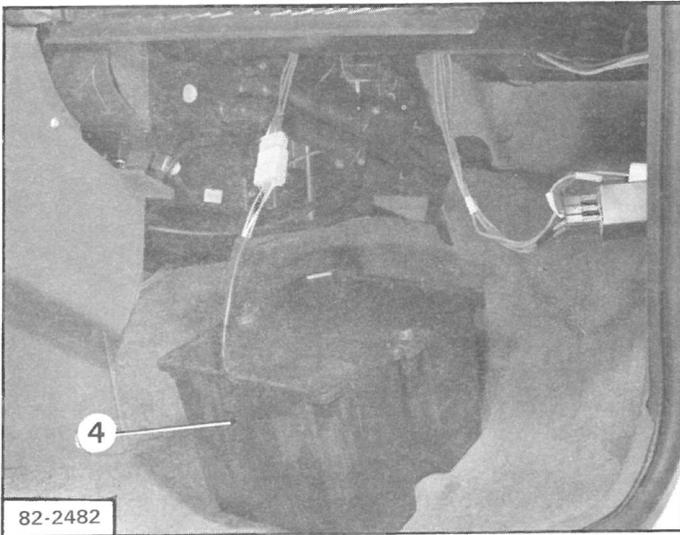
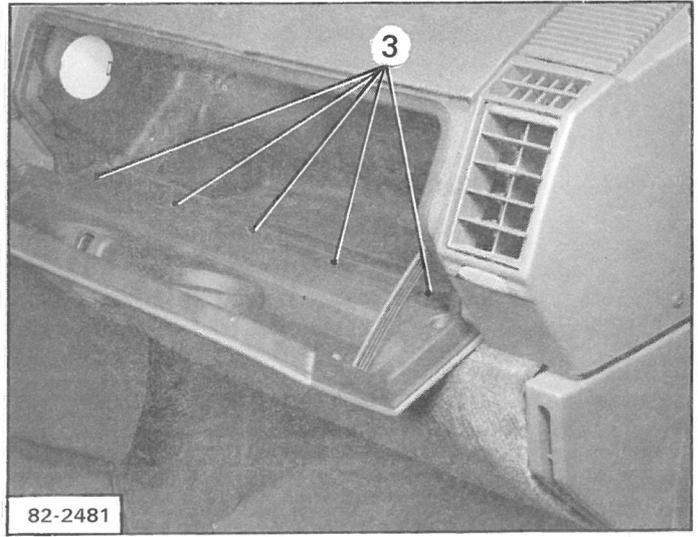
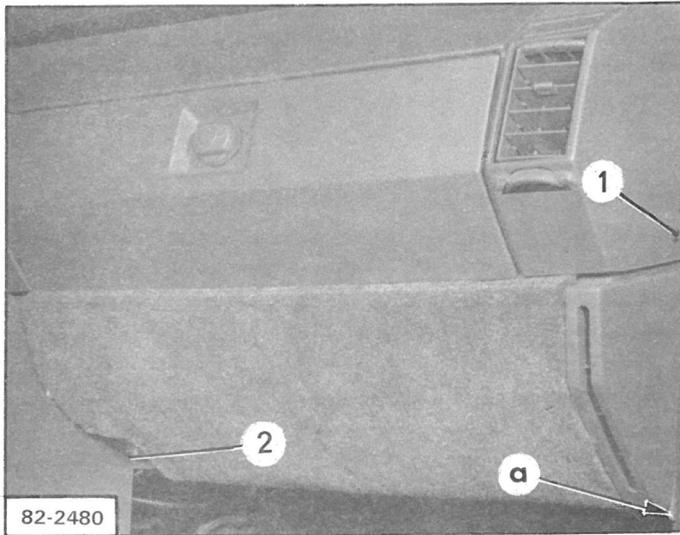
Fig. V : Remove screw (9) securing the tap on the heater unit.

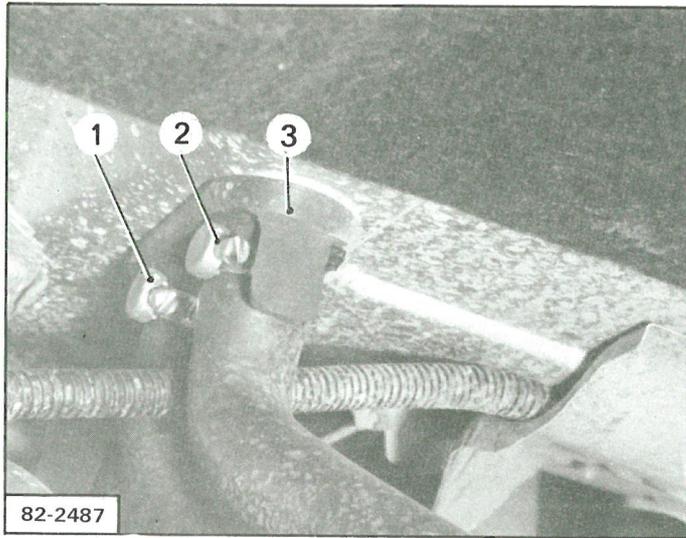
Collect the water in a container or on a rag placed on the carpeting.

Disengage the radiator from the heater unit by spreading apart the four pegs (8).

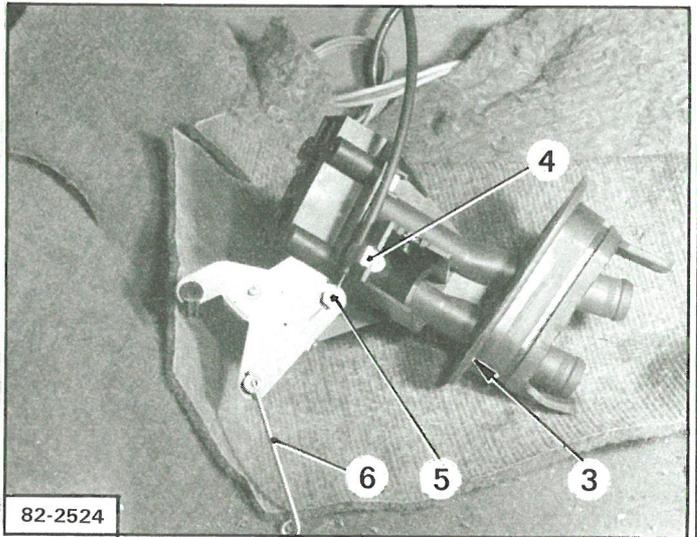
Fig. IV and V : Free link (6).

Fig. VI : Free link (10).

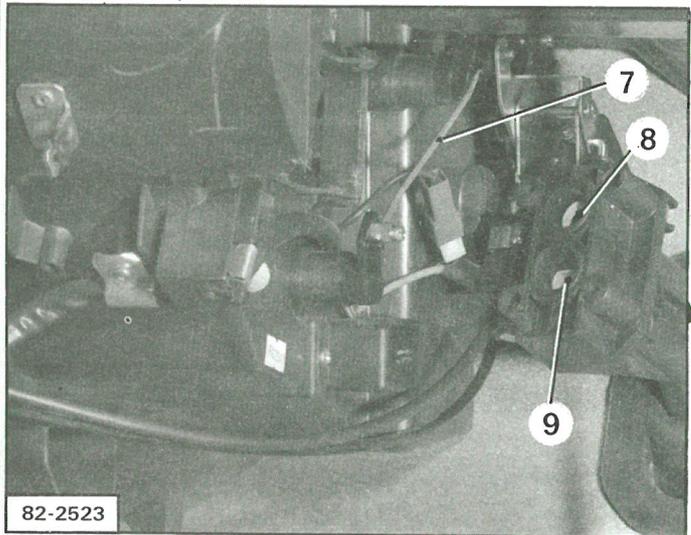




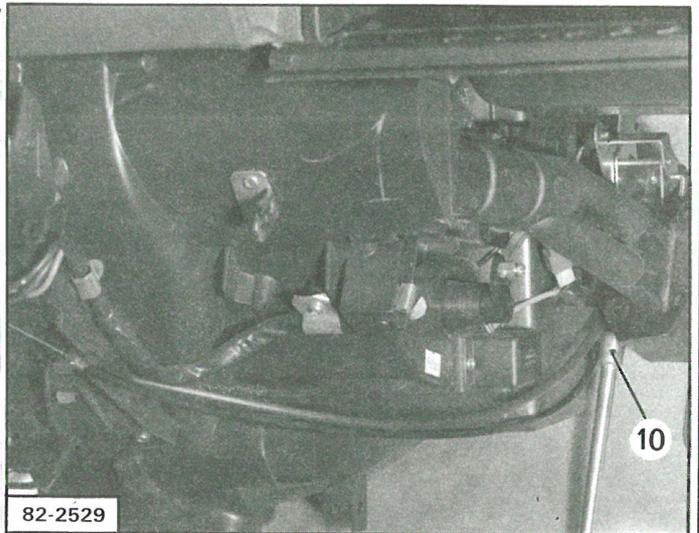
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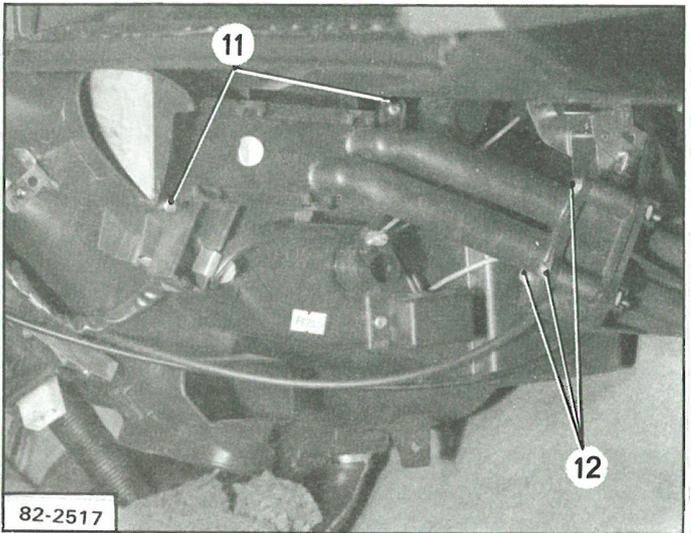
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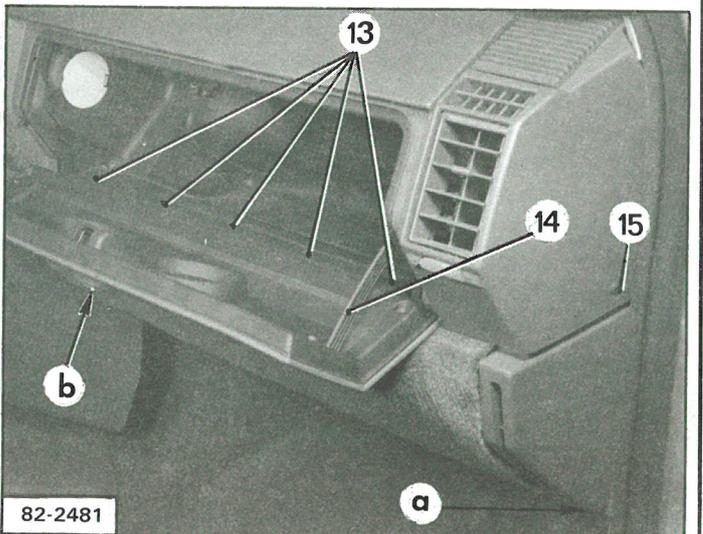
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Fig. I : Loosen hose clamps (1) and (2) and remove the water pipes.

Remove gasket (3) from the scuttle panel and take the tap out.

Fig. II : Loosen cable clamp (5).
Remove clip (4).
Remove the control cable and its sheath.

FITTING.

Fig. II : Fit gasket (3) to the tap.

Hook the cable to cable clamp (5).

Provisionally fit clip (4) on the sheath.

Operate the heater control lever so as to check if the tap opens and closes fully.

Modify, if required, the hooking location of the sheath under clip (4) to ensure this condition.

Engage the tap into the scuttle panel.

Fig. I : Fit gasket (3) into the scuttle panel.

Fig. III : Clip link (7) to the tap.

Clip link (6) to the heater unit lever.

Fit seals (8) and (9).

Engage the radiator into the heater unit.

Fig. IV and V : Fit screws (10), (11) and (12).

Fig. I : Connect the pipes over the heater tap.
Fit and tighten hose clamps (1) and (2).

Fit, depending on equipment, the boomer unit and connect it to the radio wiring harness.

Fig. VI : Fit the R.H. lower finishing panel.

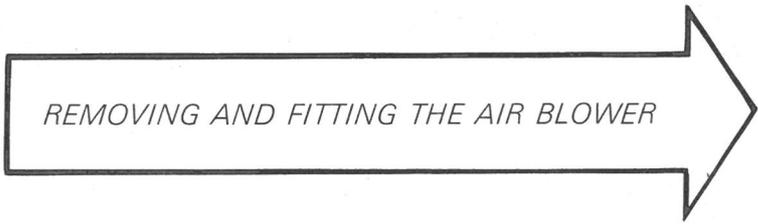
Fit and tighten screw (15) as well as the screw at « a », which is used, depending on equipment, for securing the timer unit of the rear window wiper. Fit and tighten the screw at « b ».

Fit the glove compartment lid.

Engage strap (14) in the dashboard.

Fit screws (13) and do them up without tightening. Close the lid to check the alignment as well as the going-out of the lighting bulb. Adjust if necessary. Tighten screws (13).

Fill up the vehicle cooling circuit and bleed it (*see XB. 230-00*).



REMOVAL.

Remove the heater unit (see XB 641-1).

Fig. I Carefully unstick foam gaskets (1) and (2).

Fig. II Remove :

- the five screws () securing the control bracket,
- rivet (3)
- the eleven clips (4).

Open the housing.

Remove the five flaps.

Fig. III : Disconnect air blower connectors (5).

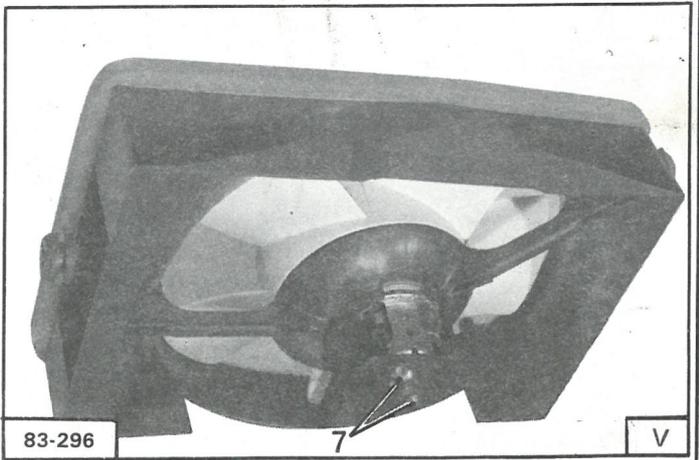
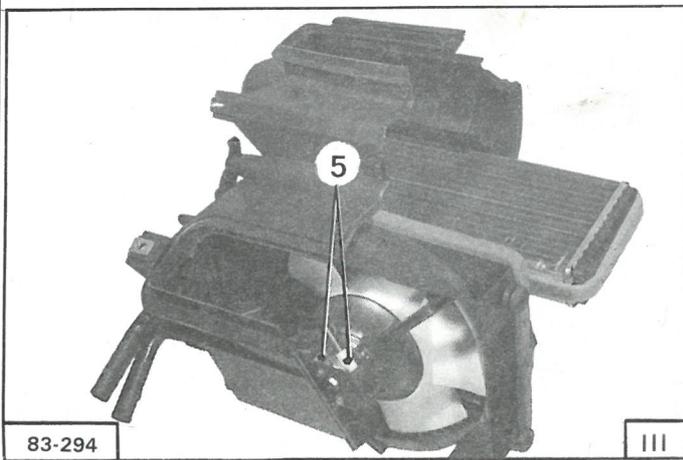
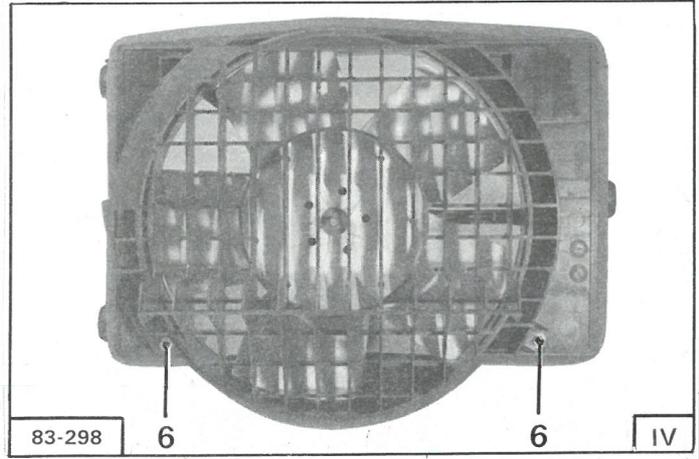
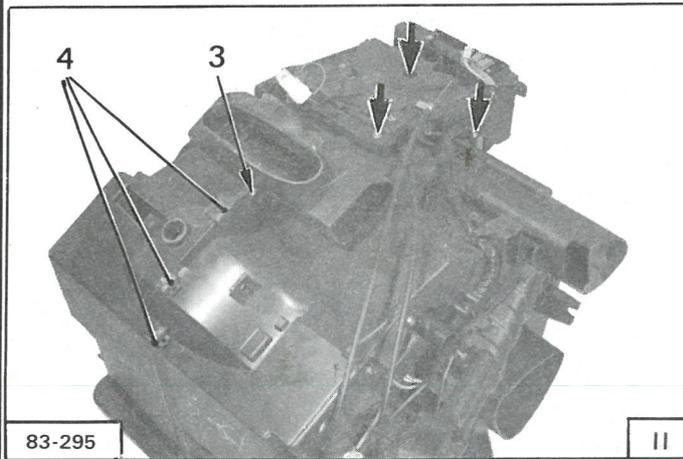
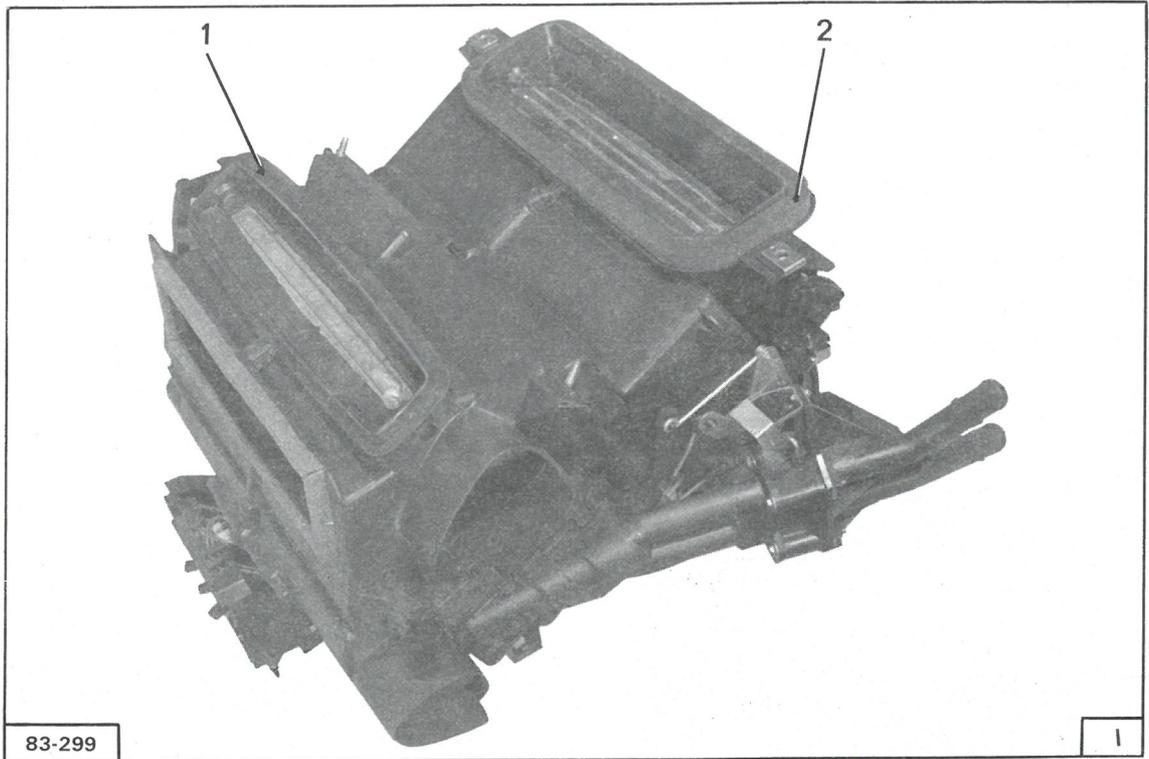
Remove the air blower by pulling it out.

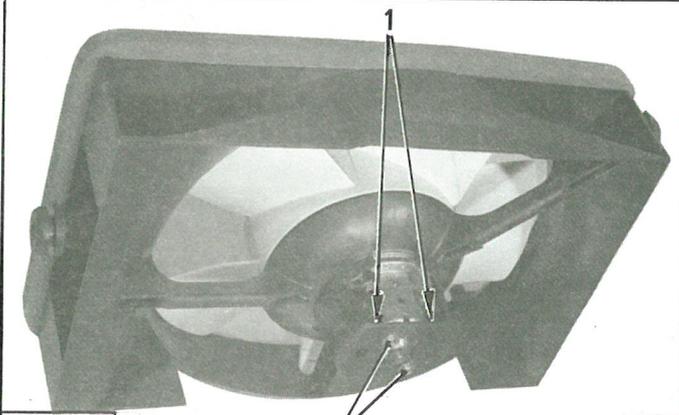
Fig. IV : Remove :

- nuts (6),
- the air blower grille.

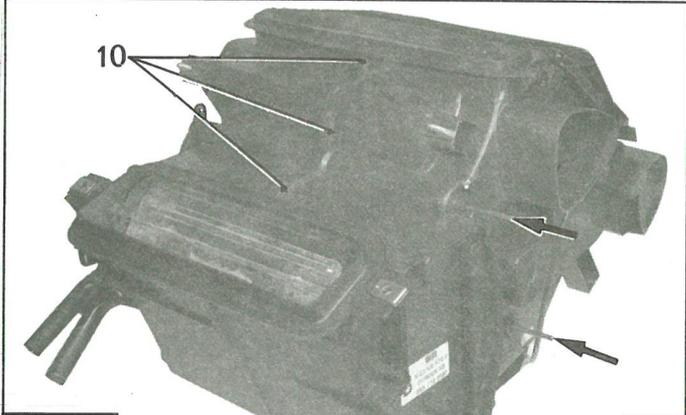
Fig. V : Remove :

- the screws (7),
- the air blower from its support.

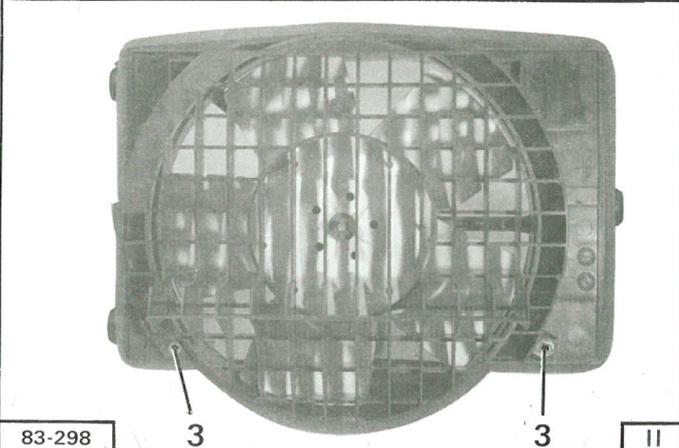




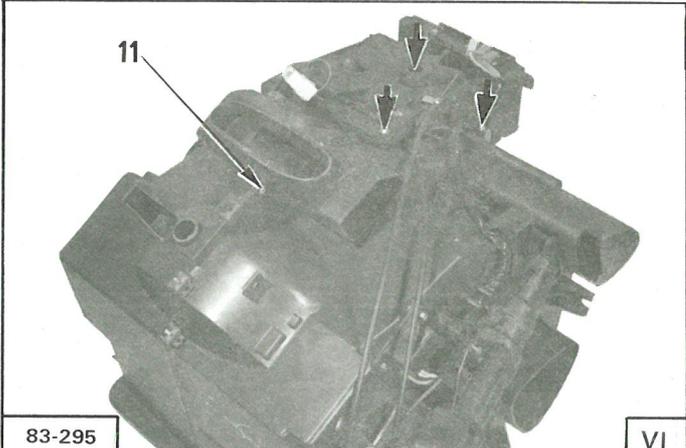
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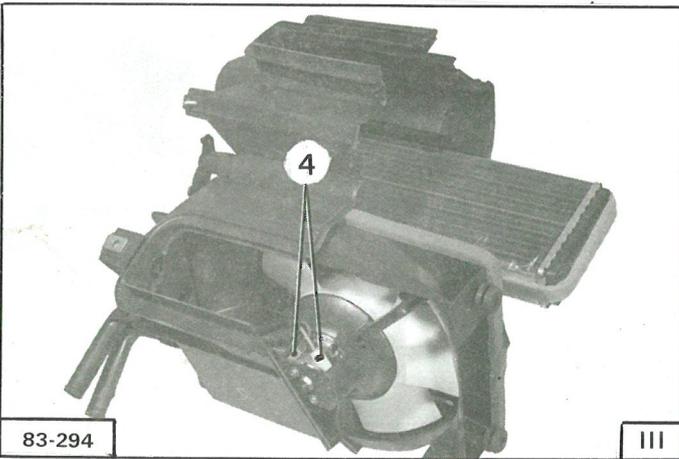
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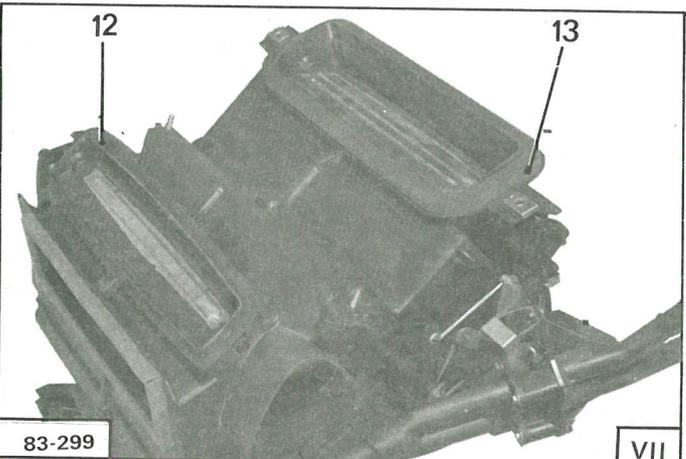
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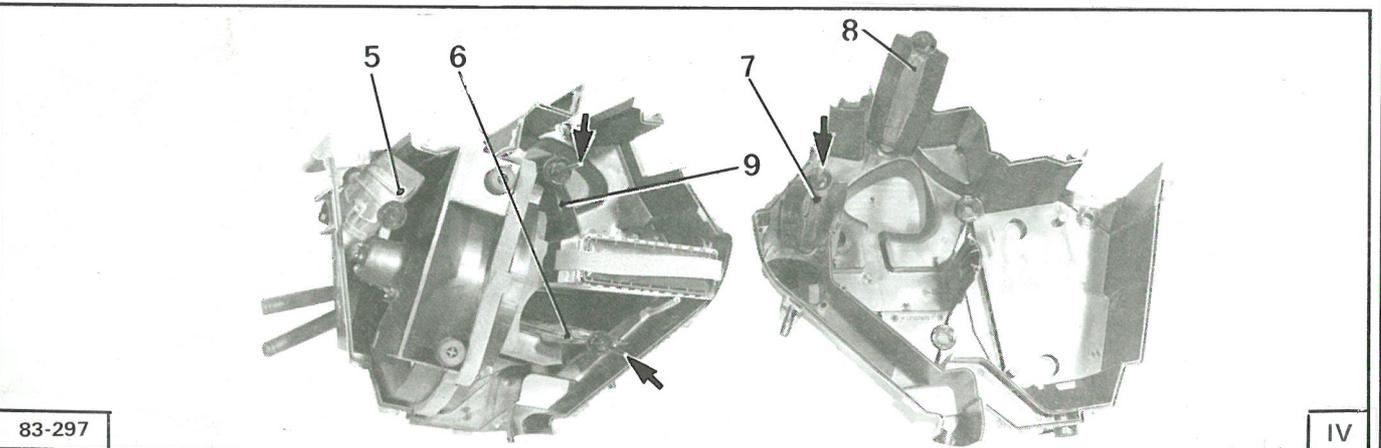
83-295 VI



83-294 III



83-299 VII



83-297 IV

FITTING.

To facilitate the fitting of the flaps, prepare three end-pieces made of dia. 5 mm steel wire, 50 mm long.

Fig. I : Position the air blower inside its support (lugs (1) upwards) then fix it, using screws (2).

Fig. II : Secure the grille, using nuts (3).

Fig. III : Position the air blower in its housing.
Connect the connectors (4).

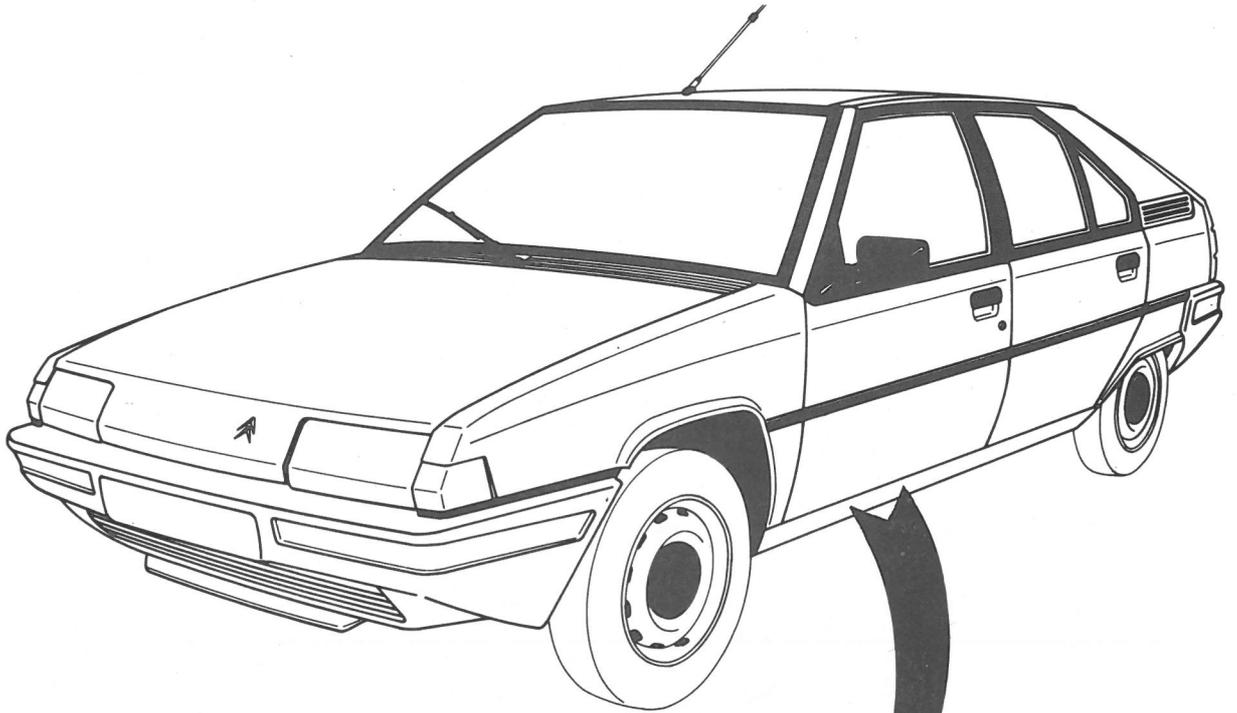
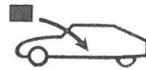
Fig. IV : Fit flaps (5), (6), (7), (8) and (9) on their articulating points in the half-housings.
Check the positioning of each flap by operating the controls.
Fit the end-pieces () to the free ends of (6), (7) and (9).

Fig. V : Assemble the half-housings.
Fit the eleven clips (10).
Remove the end-pieces ().

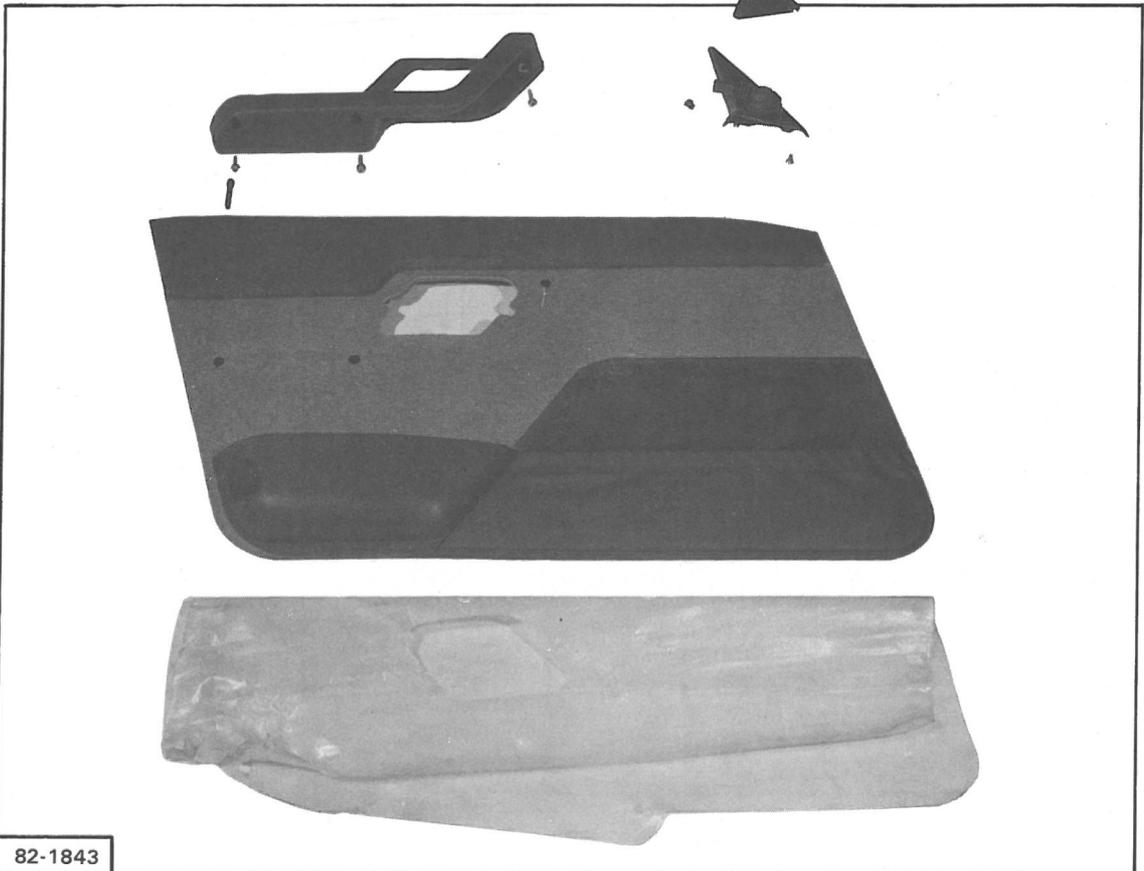
Fig. VI : Secure the control bracket, using the five screws ().
Fit a dia. 4 mm rivet at (11) after inserting a plain washer.

Fig. VII : Position and stick foam gaskets (12) and (13).

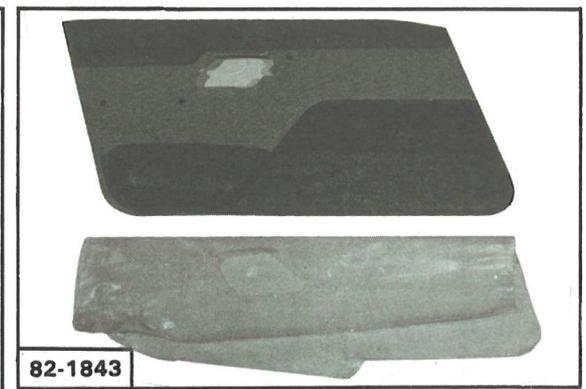
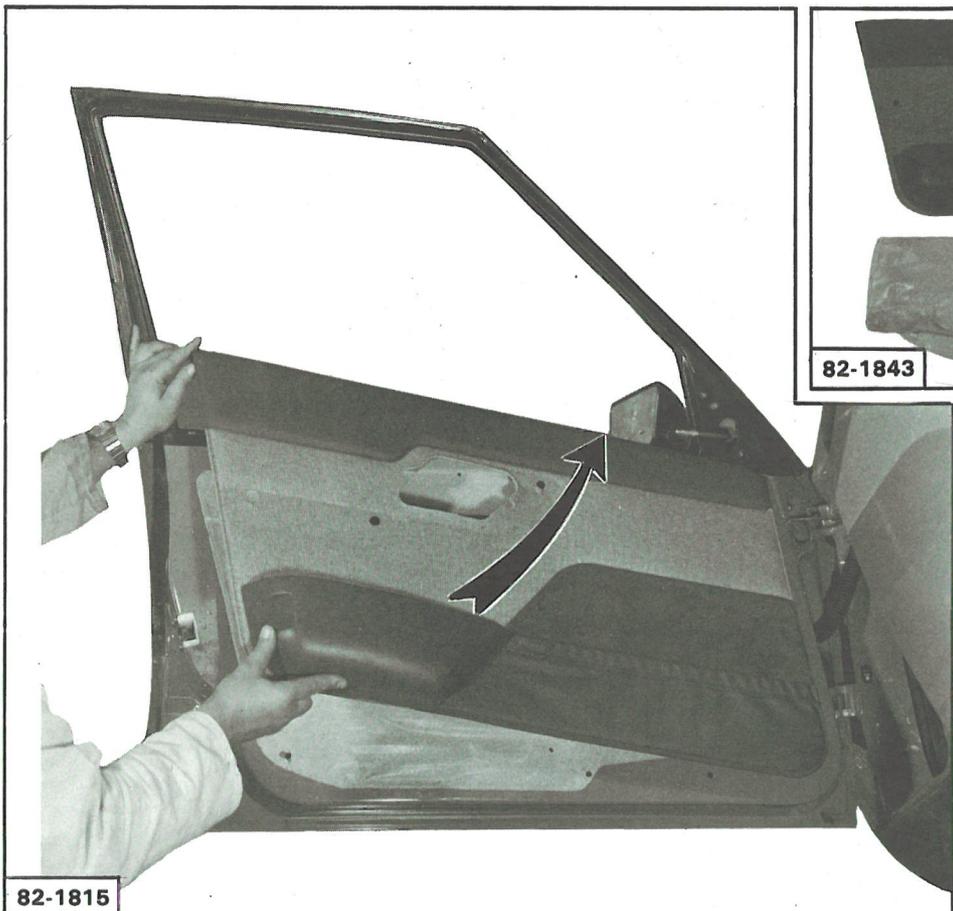
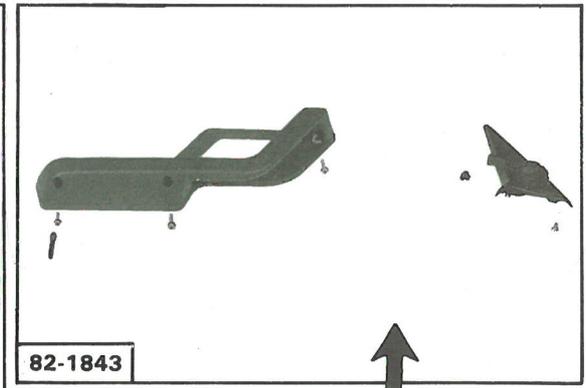
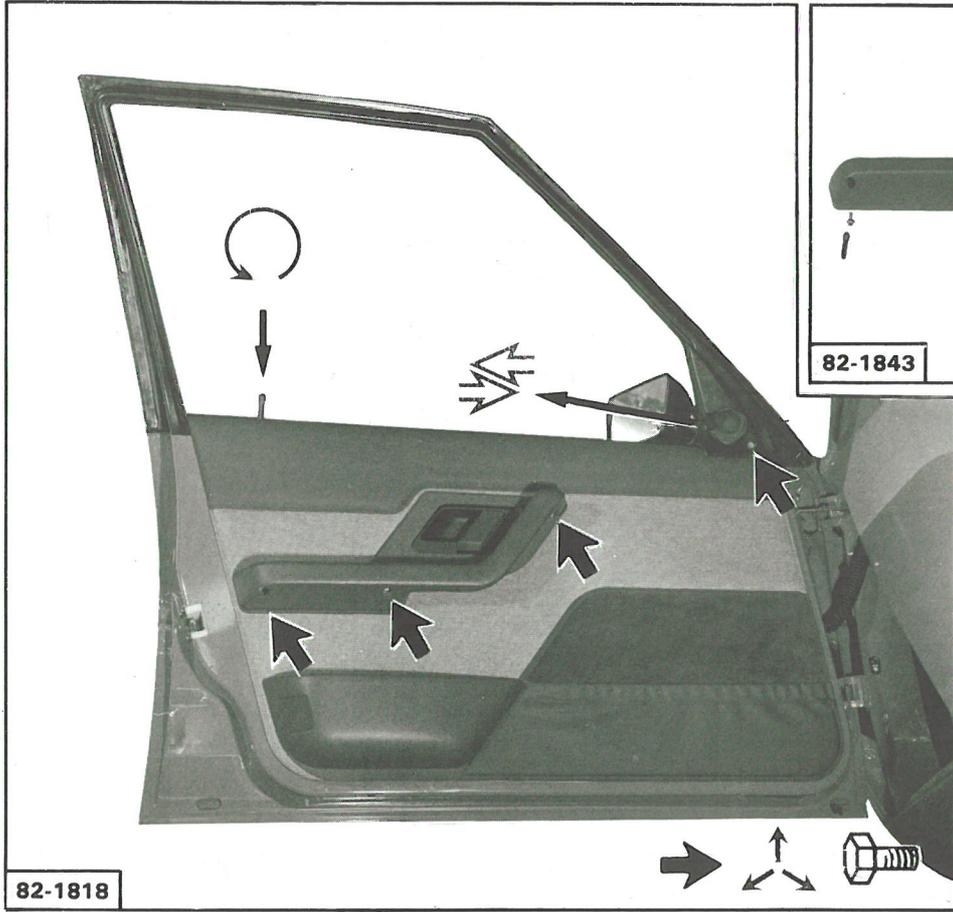
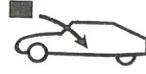
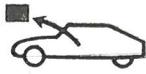
Operation number	DESCRIPTION
<p>XB. 841-1 XB. 841-3 XB. 841-6 XB. 842-1 XB. 842-3</p>	<p>SIDE DOORS</p> <p>Dismantling and re-assembling a front door, partly Removing and fitting a front door lock Replacing an outer rear view mirror glass Dismantling and re-assembling a rear door, partly Removing and fitting a rear door lock</p>
<p>XB. 851-1 XB. 852-2 XB. 853-1</p>	<p>TRIMMING, FRONT</p> <p>Replacing a front wing Opening the bonnet when its lock control is no longer operating Replacing a front bumper</p>
<p>XB. 853-2</p>	<p>TRIMMING, REAR</p> <p>Replacing a rear bumper</p>
<p>MR. 630-84/41</p>	<p>TOOLING</p> <p>Manufacturing drawings for the MR tools appearing in the chapter</p> <p>Hook for opening the bonnet (XB. 852-2)</p>

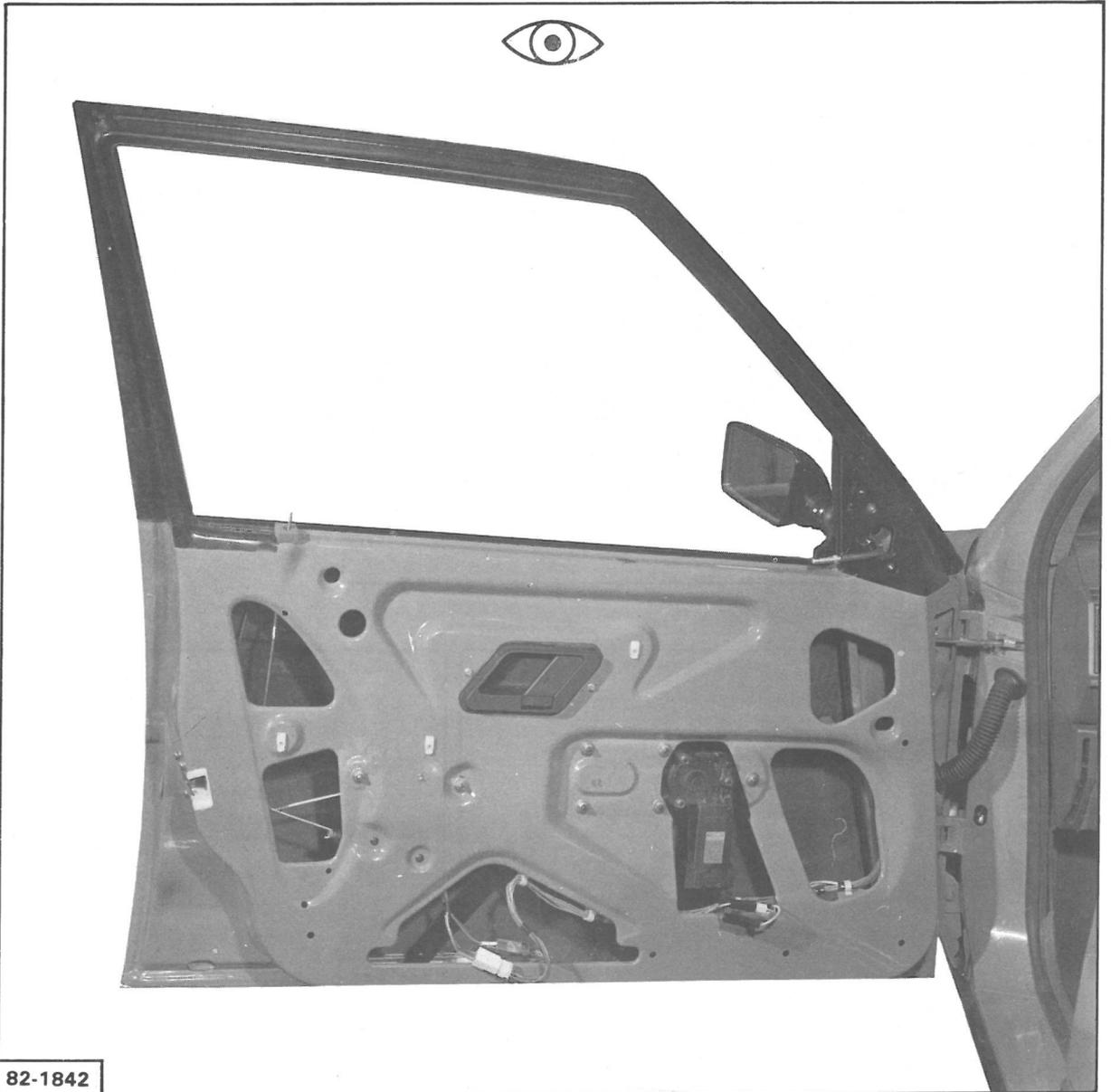
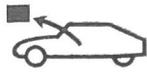


BX 80-9

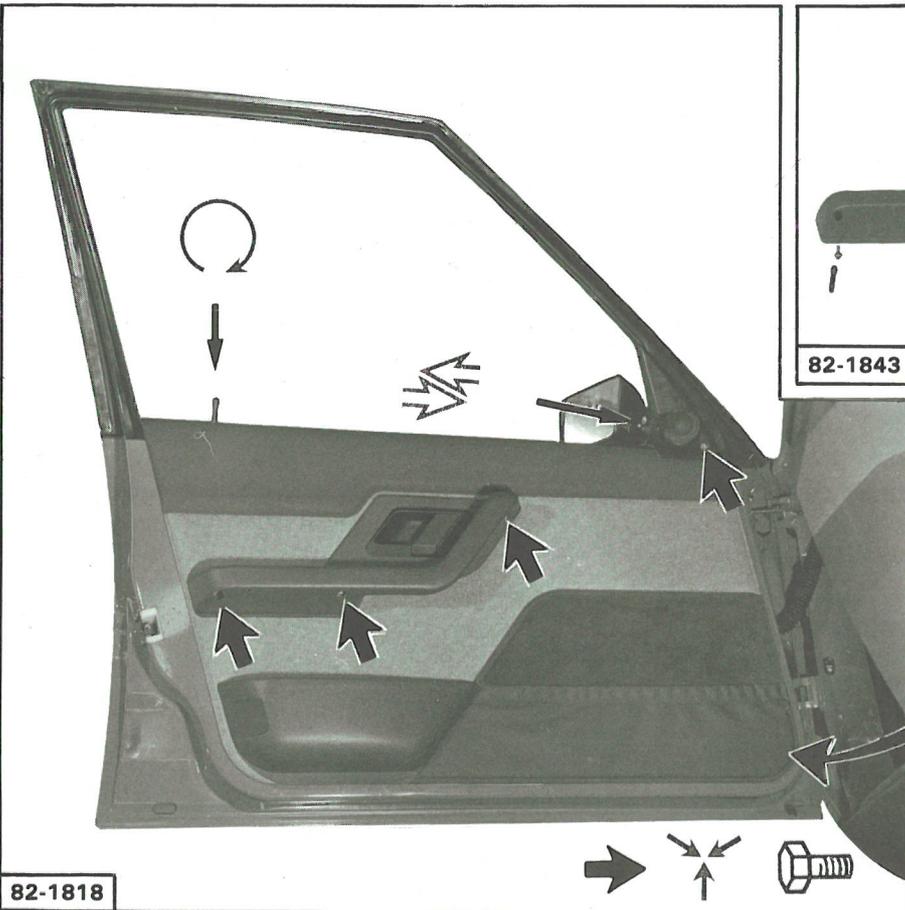
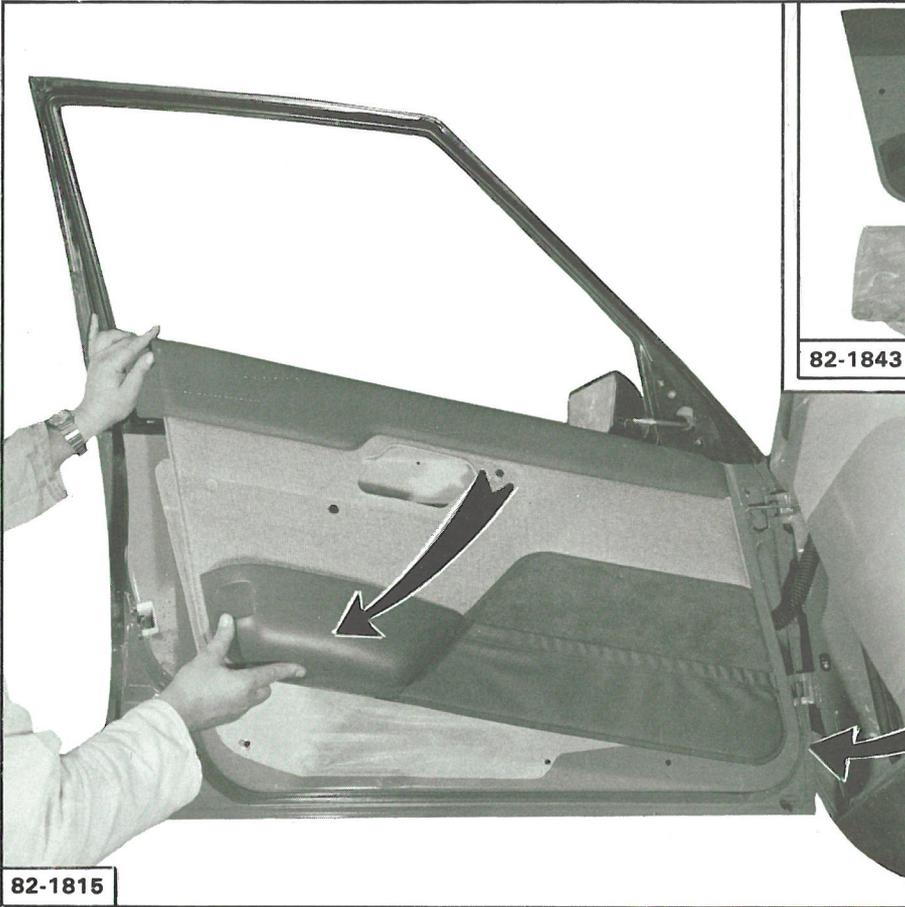


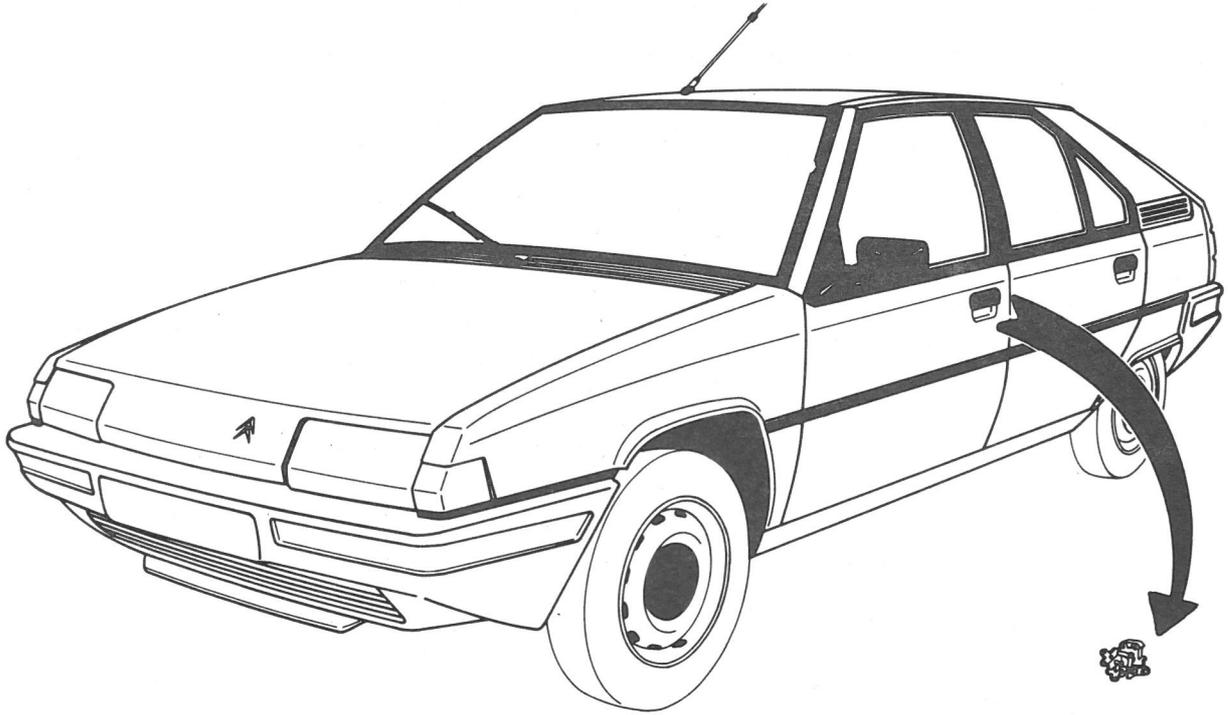
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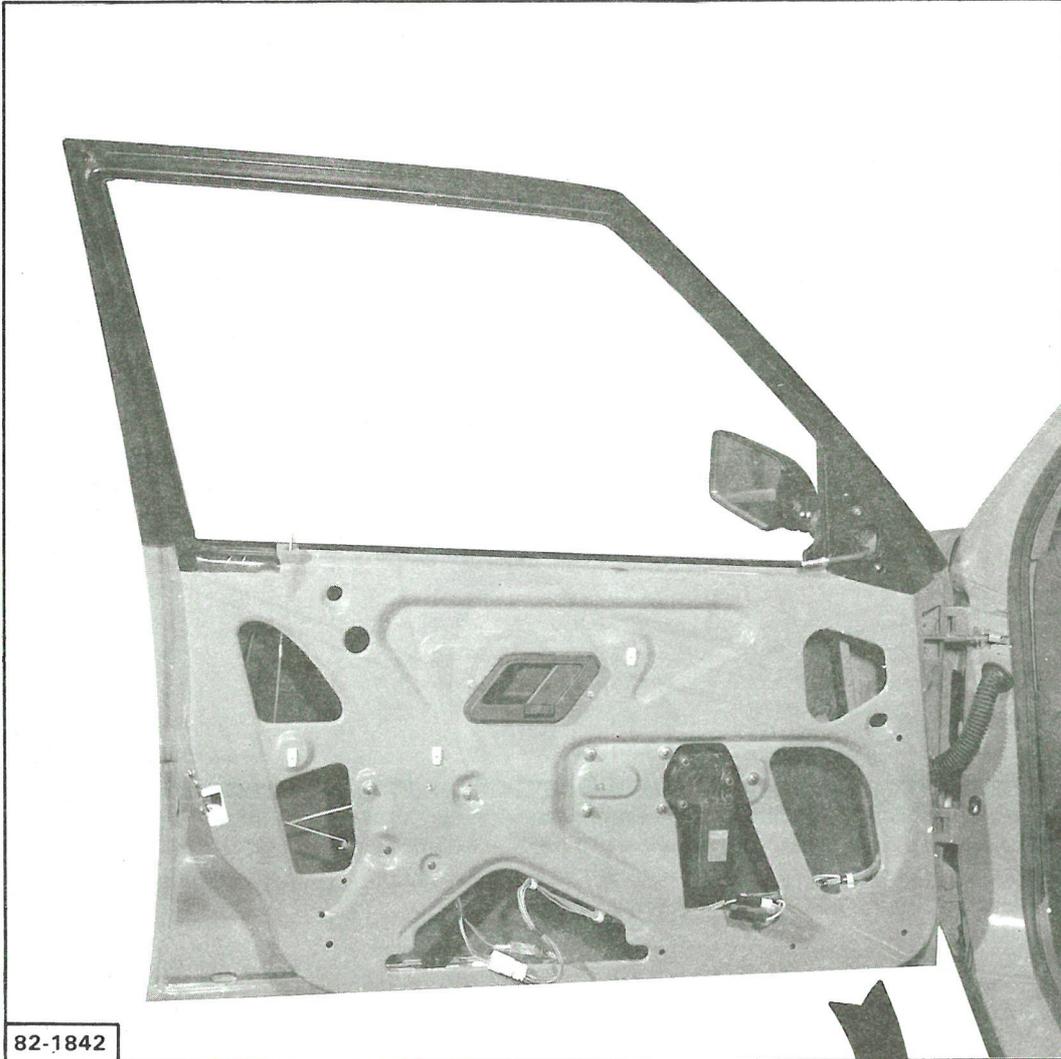
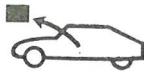


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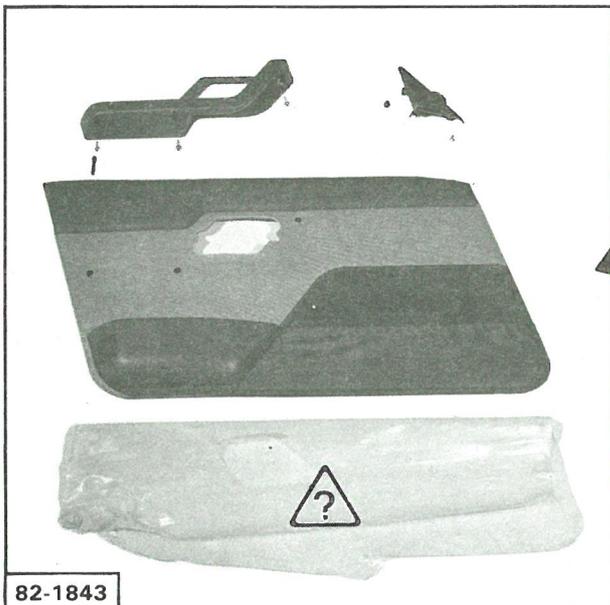
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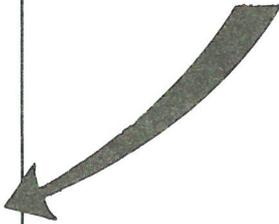
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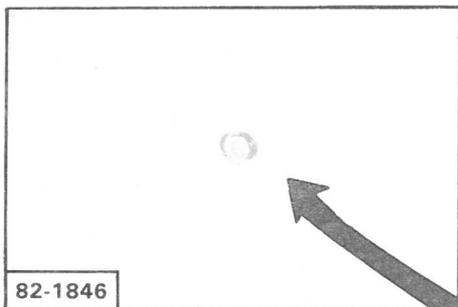


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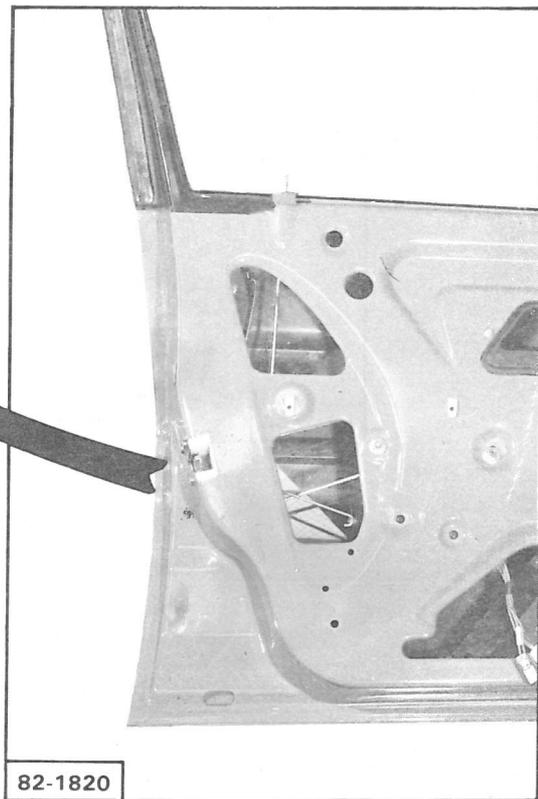


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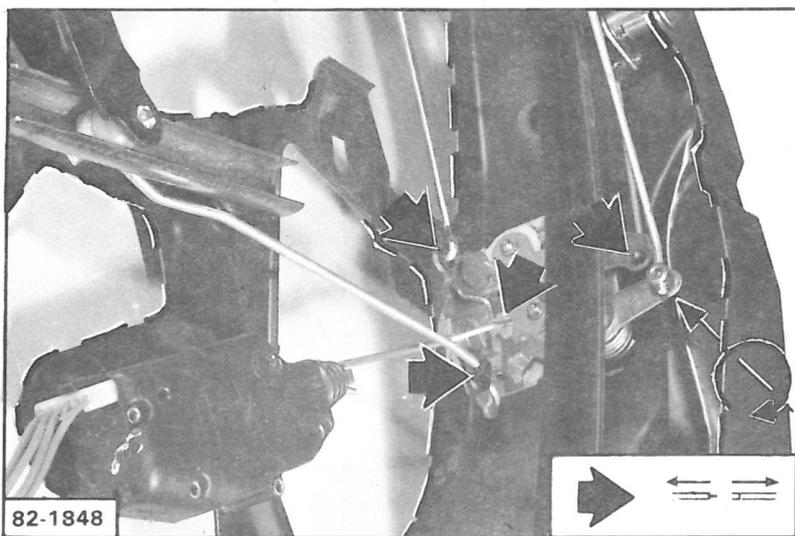




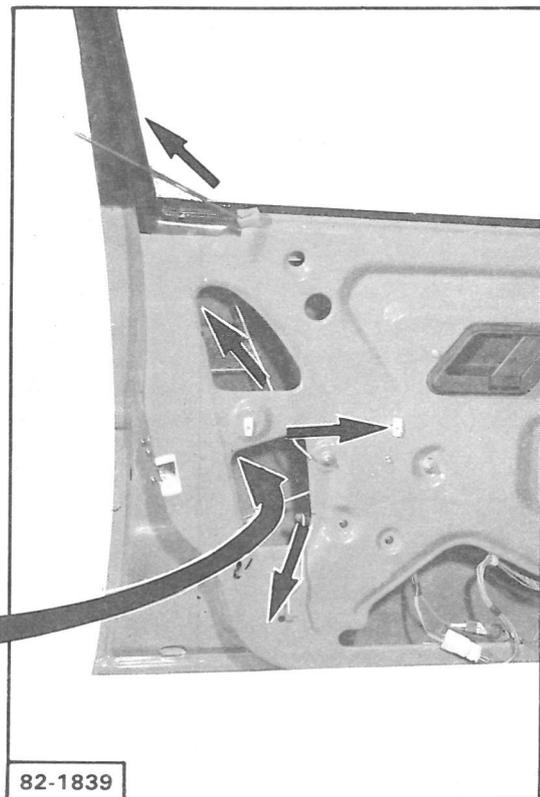
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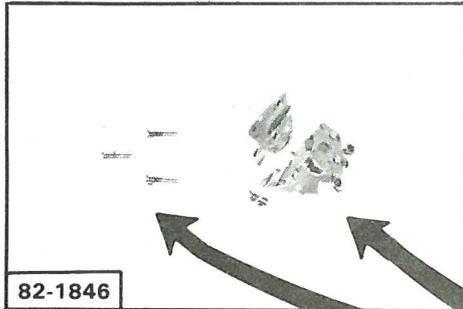
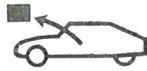
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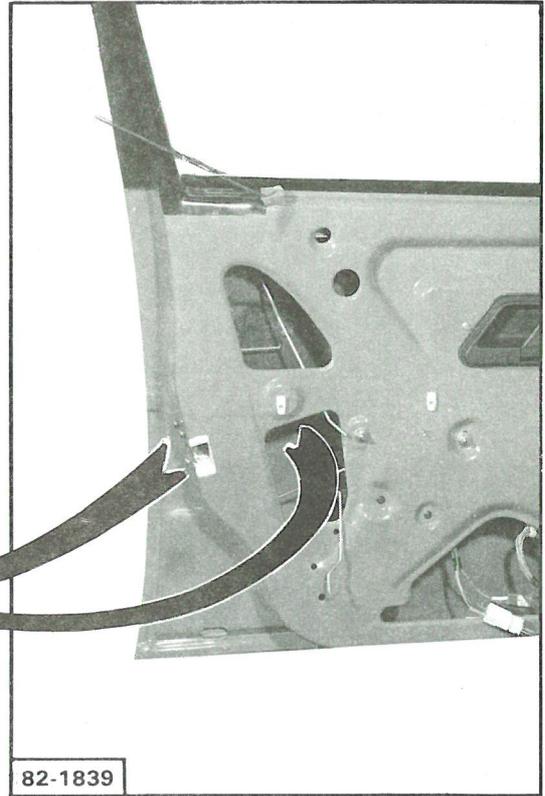
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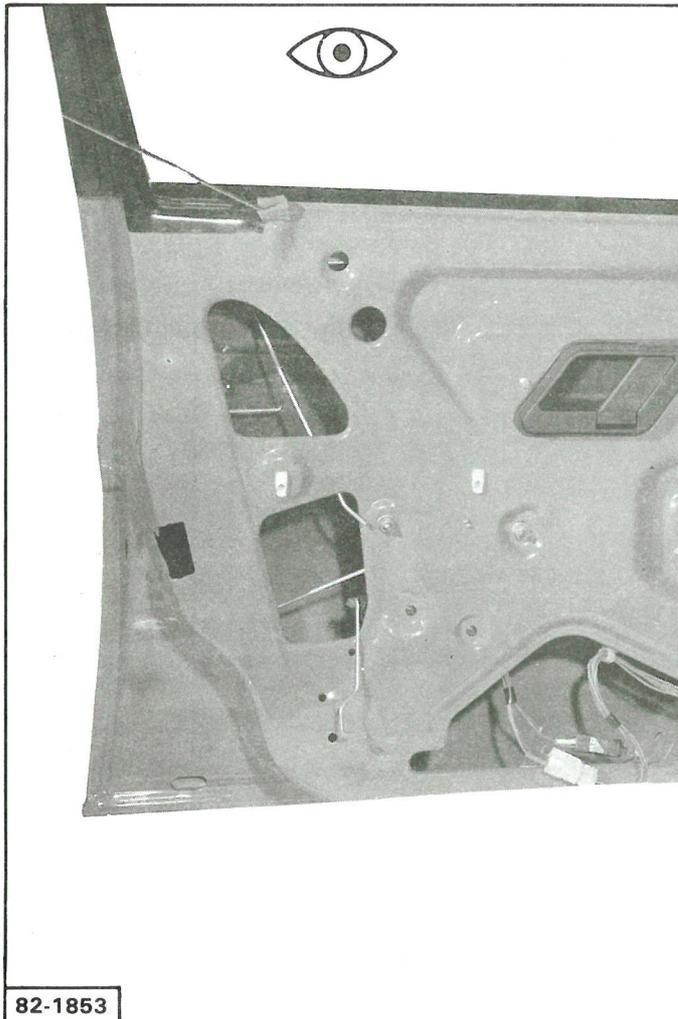
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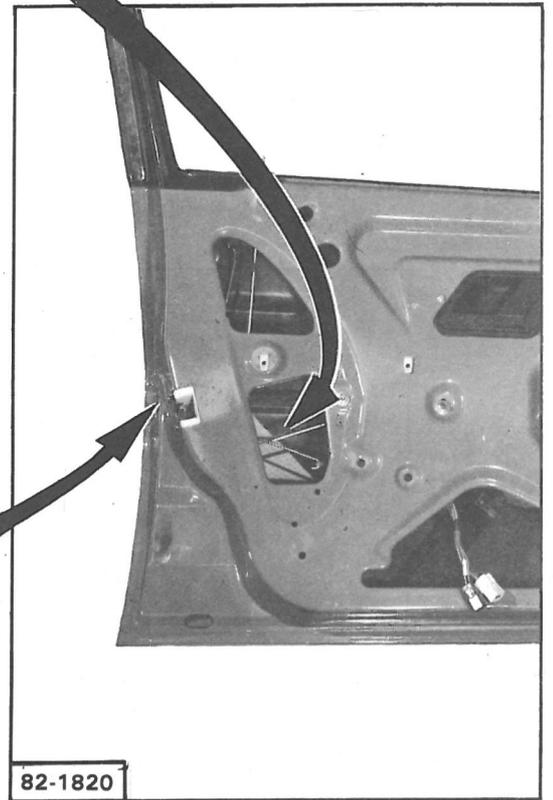
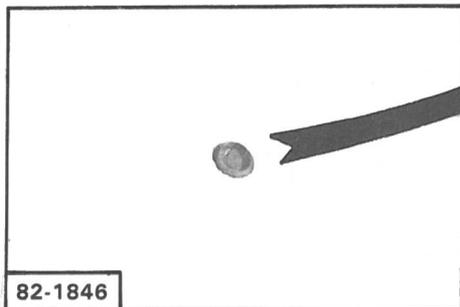
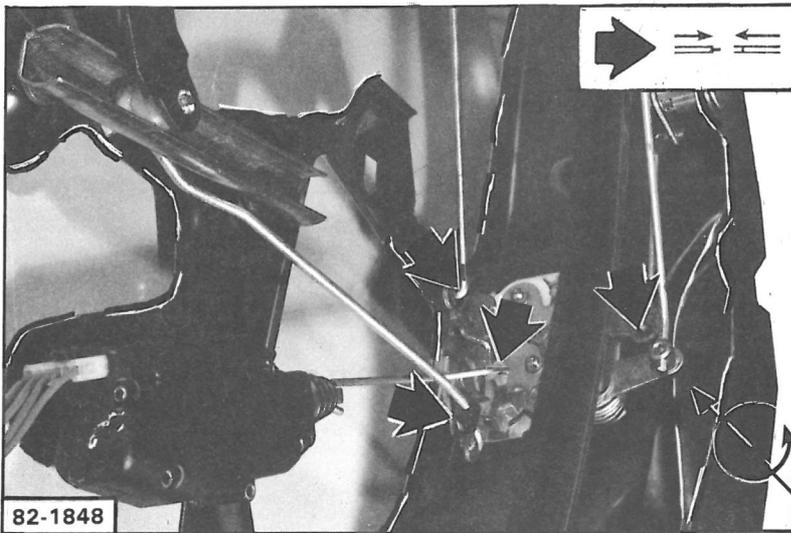
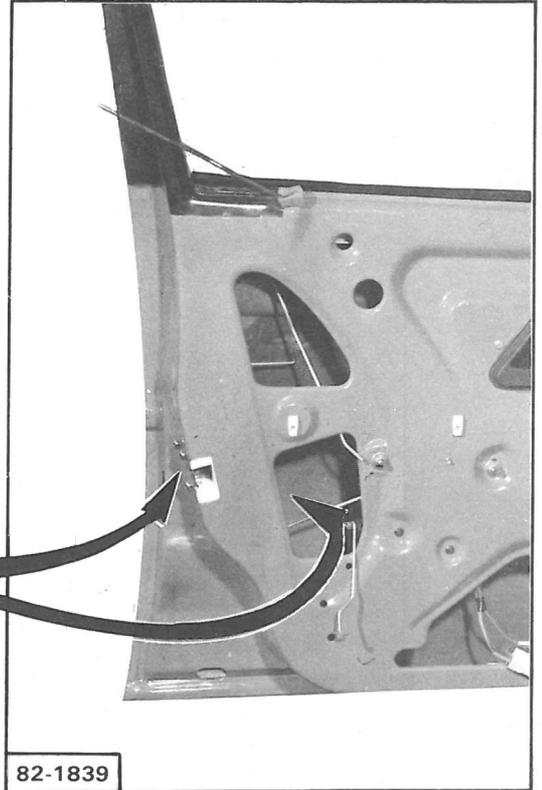
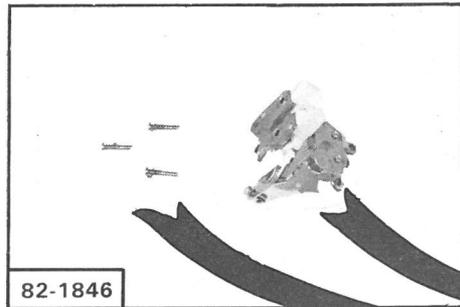
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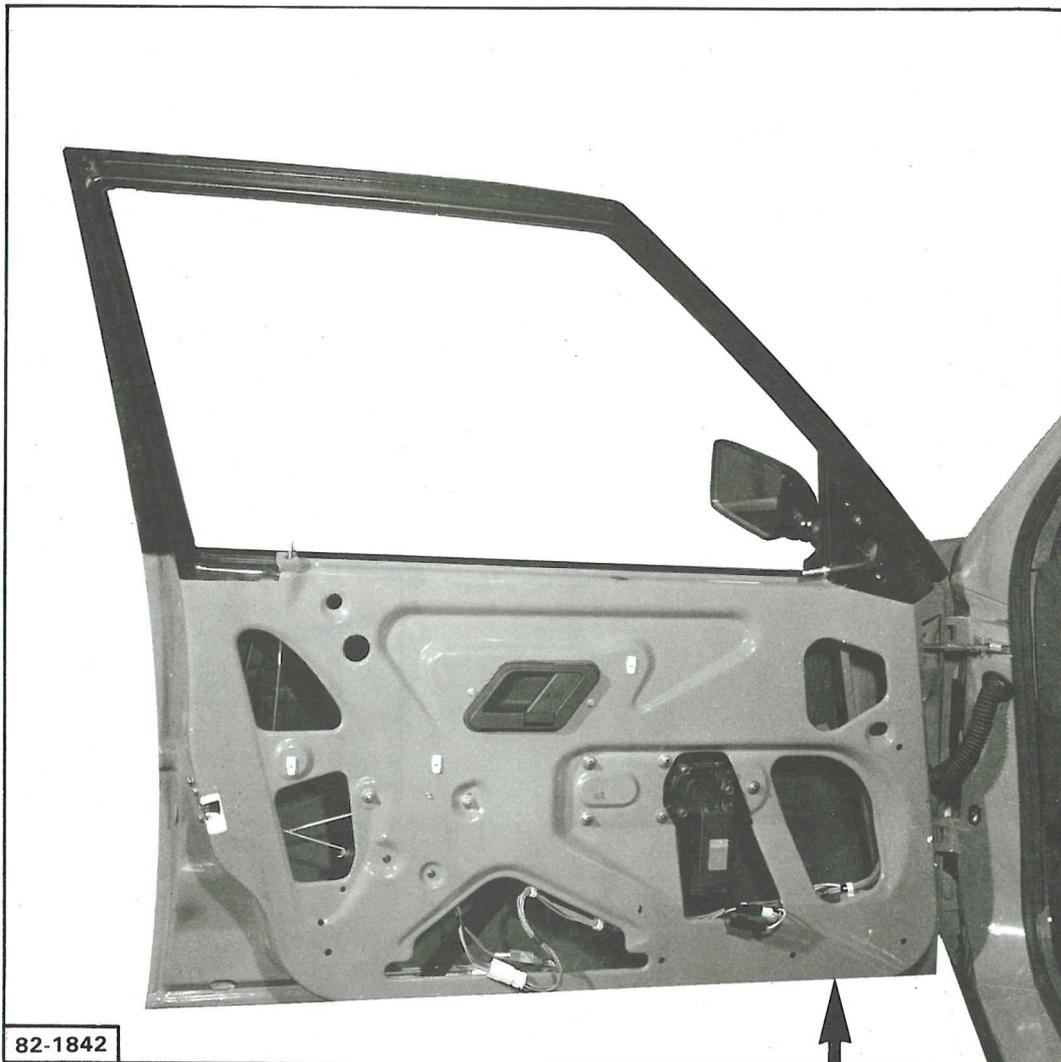


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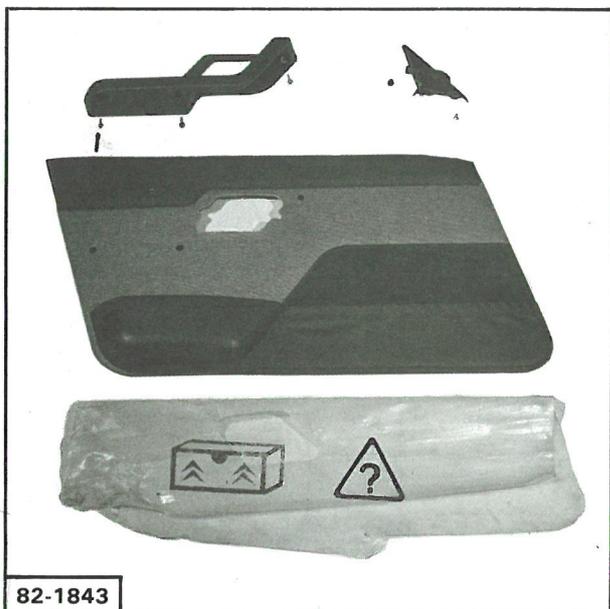




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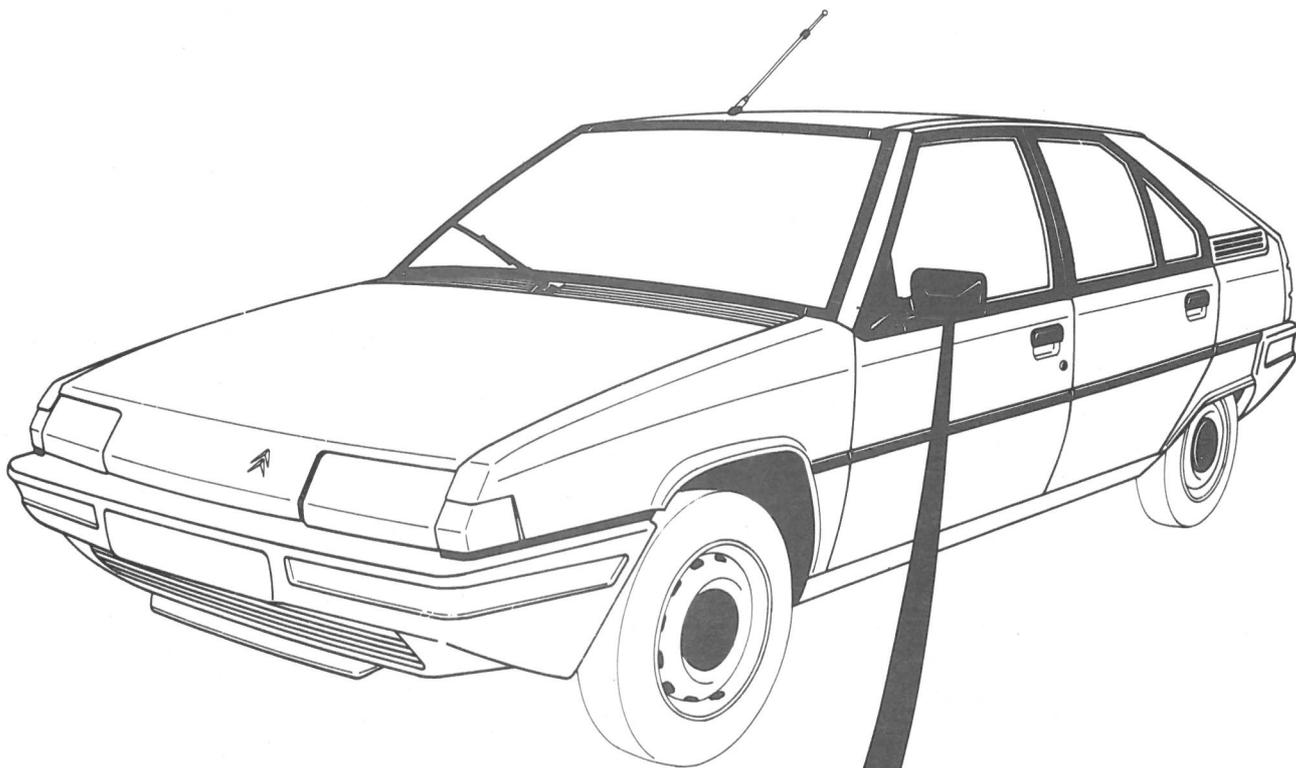


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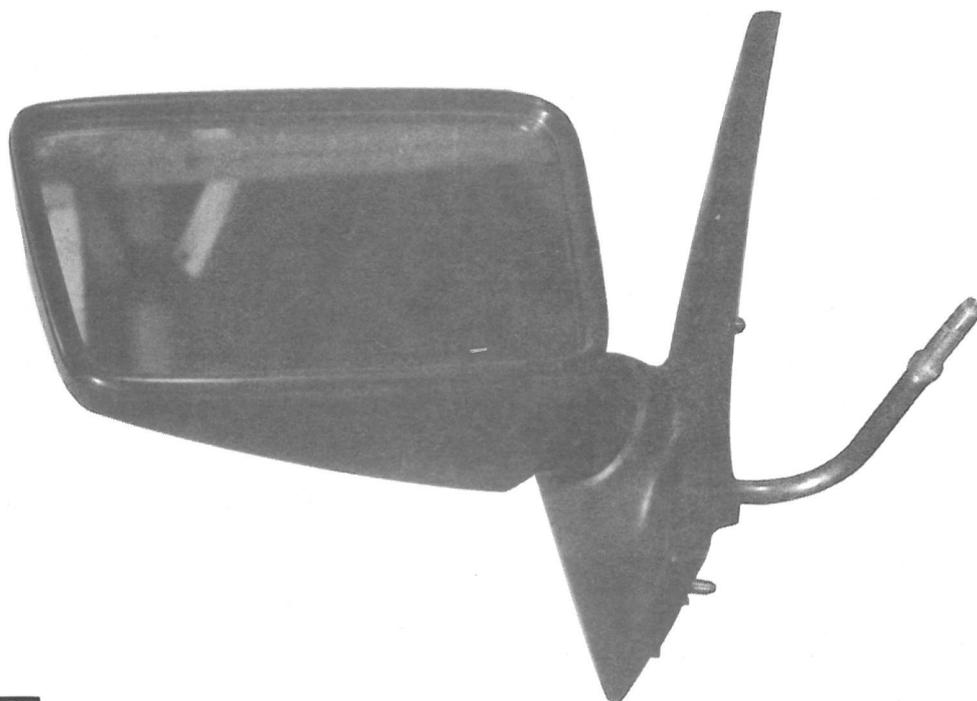


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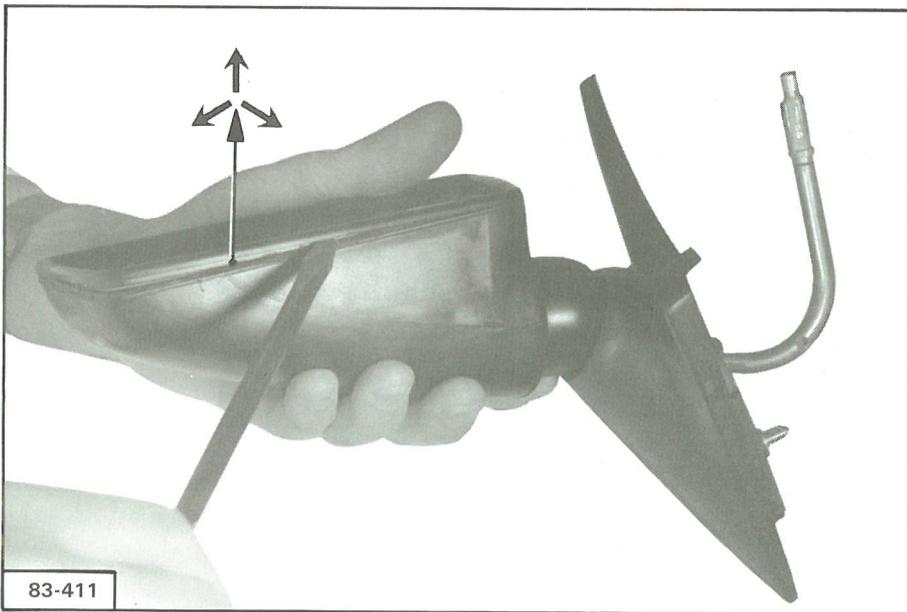
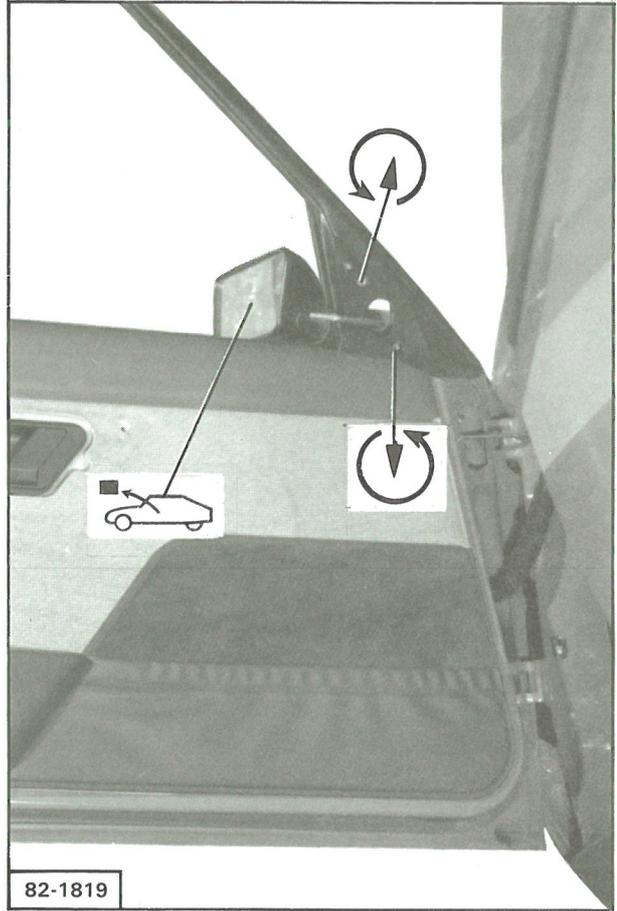
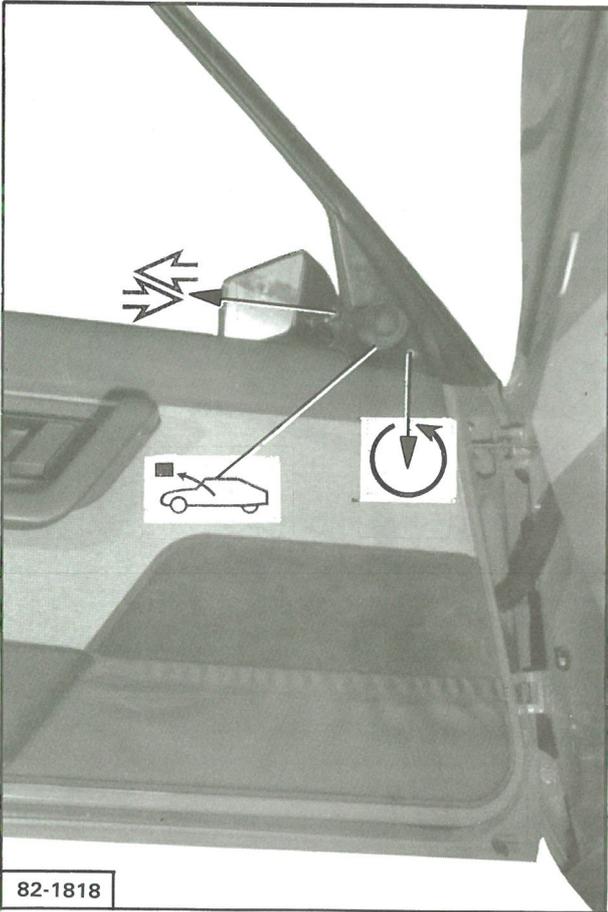
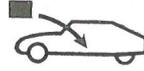


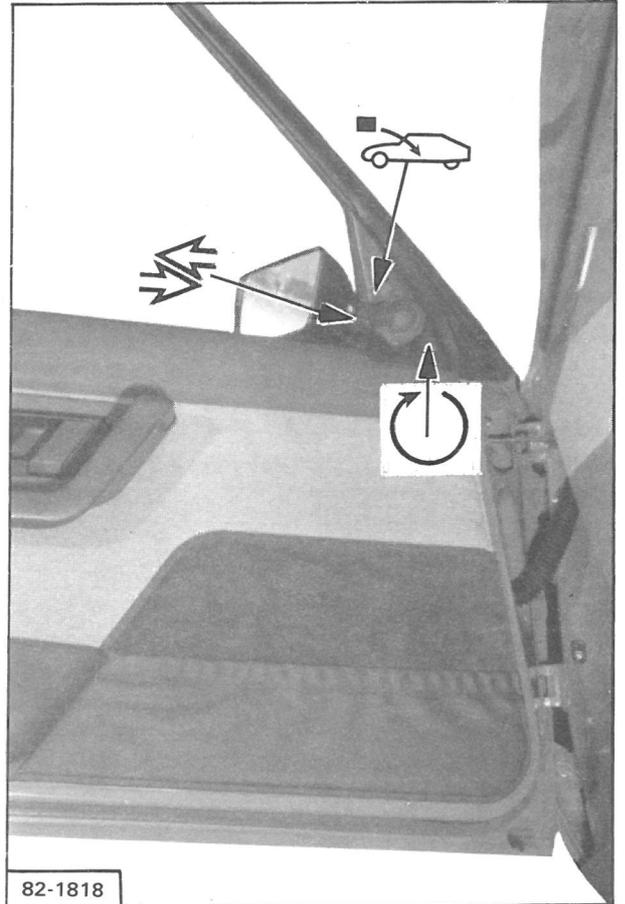
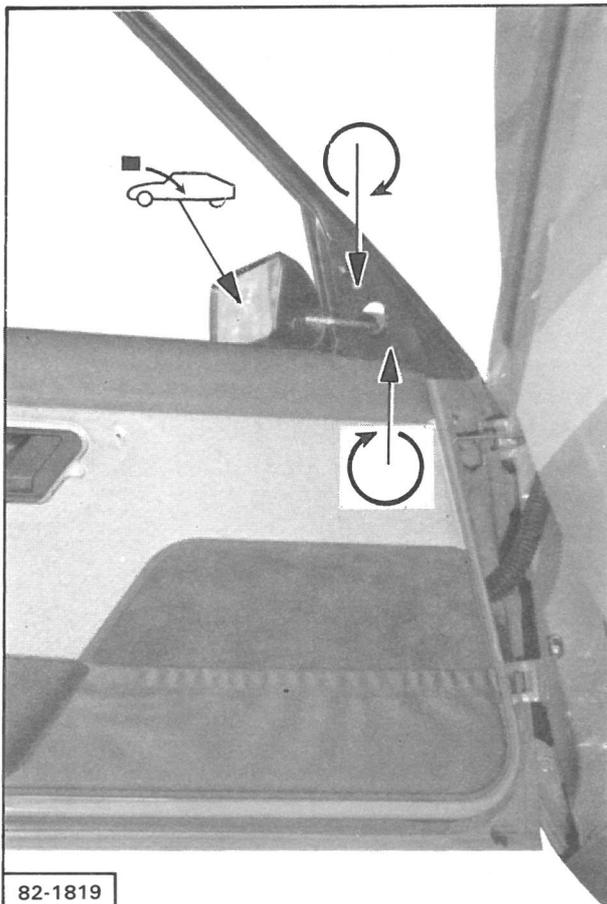
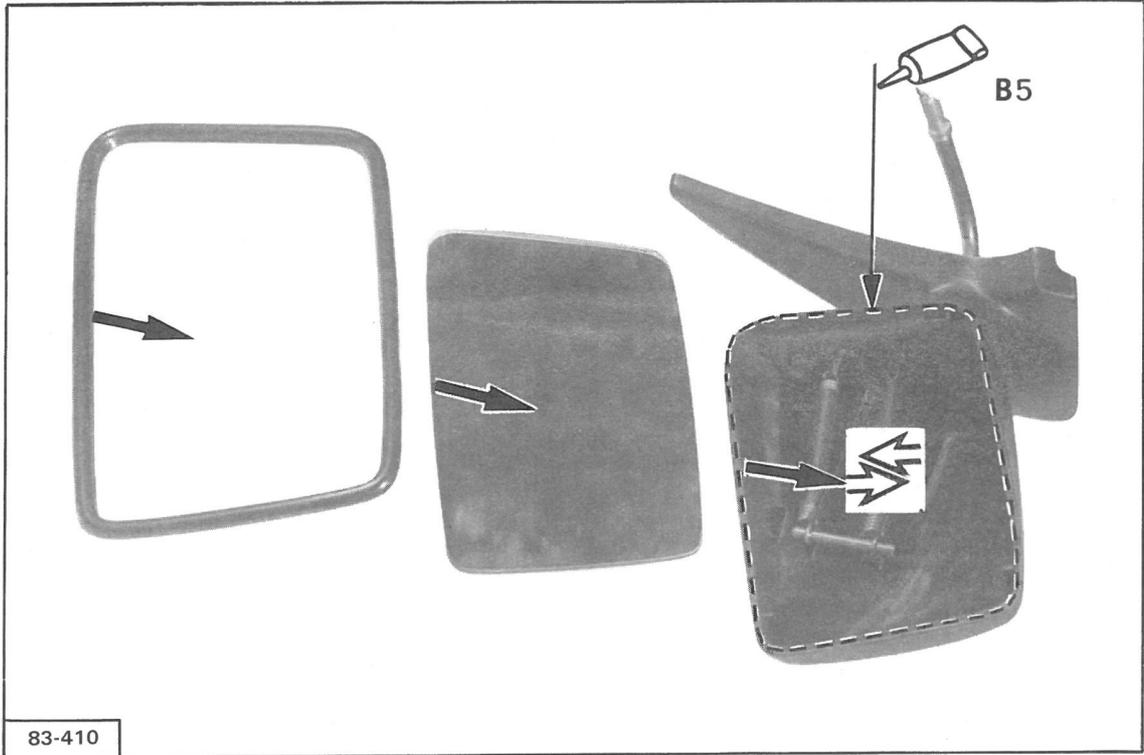


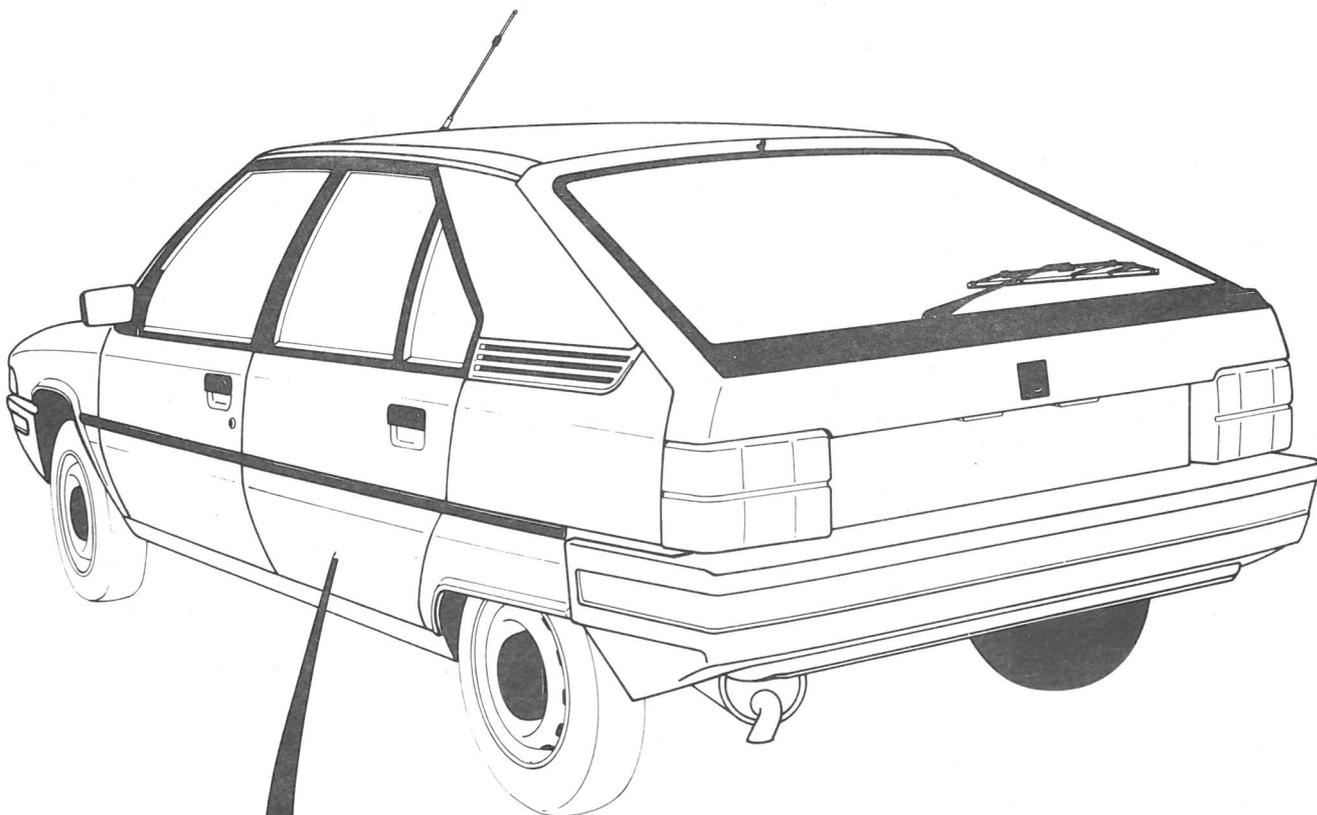
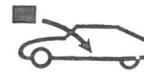
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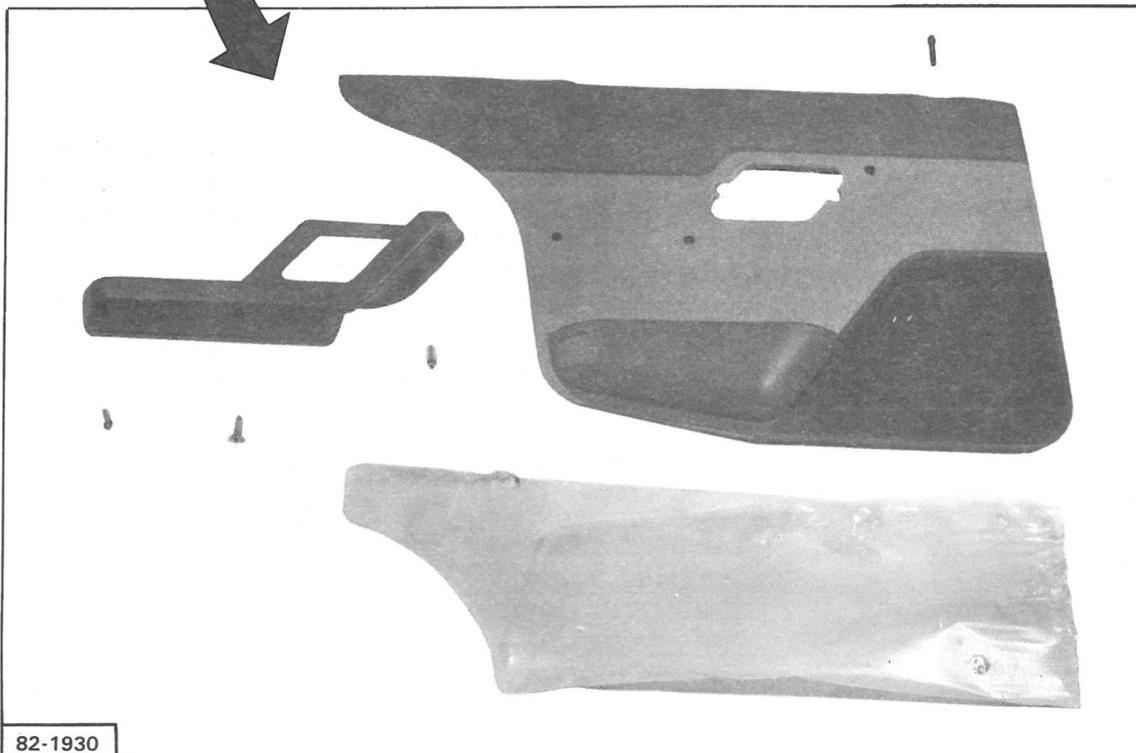
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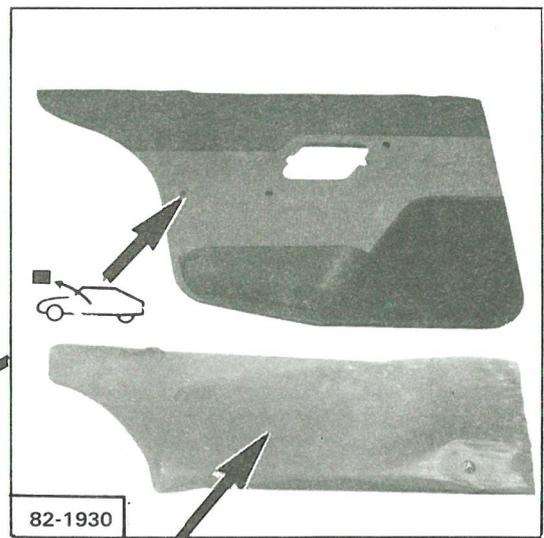
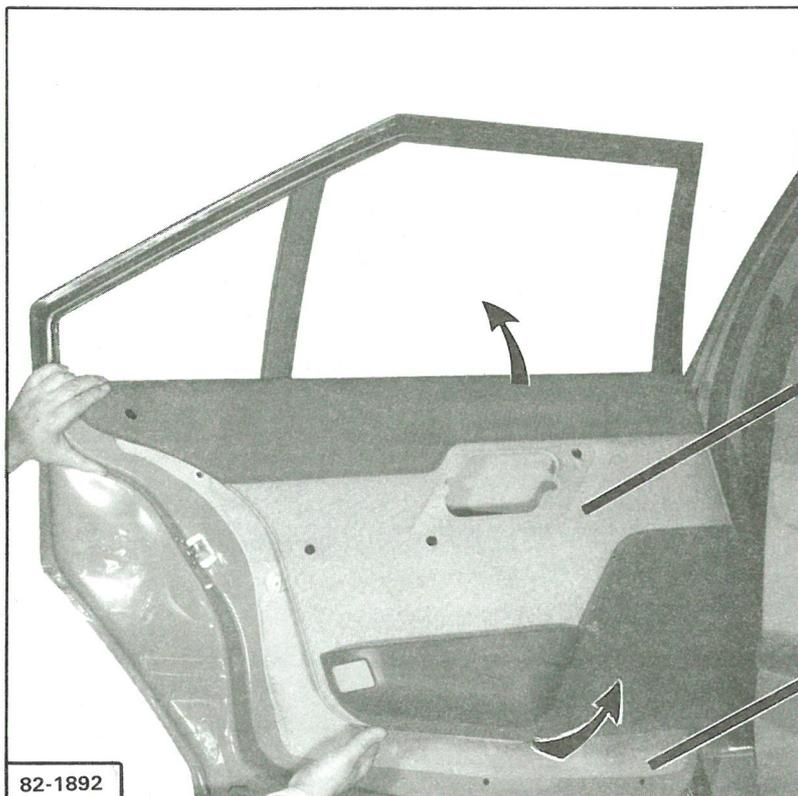
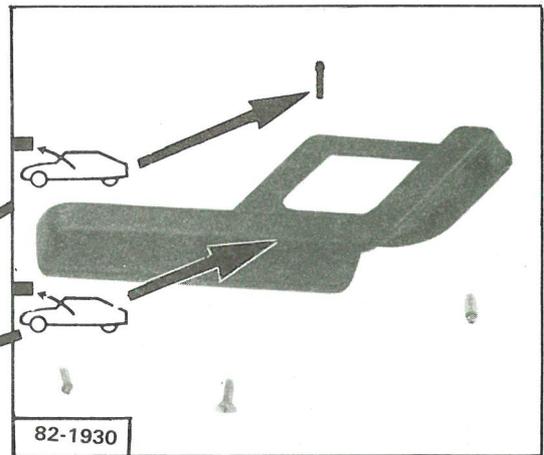
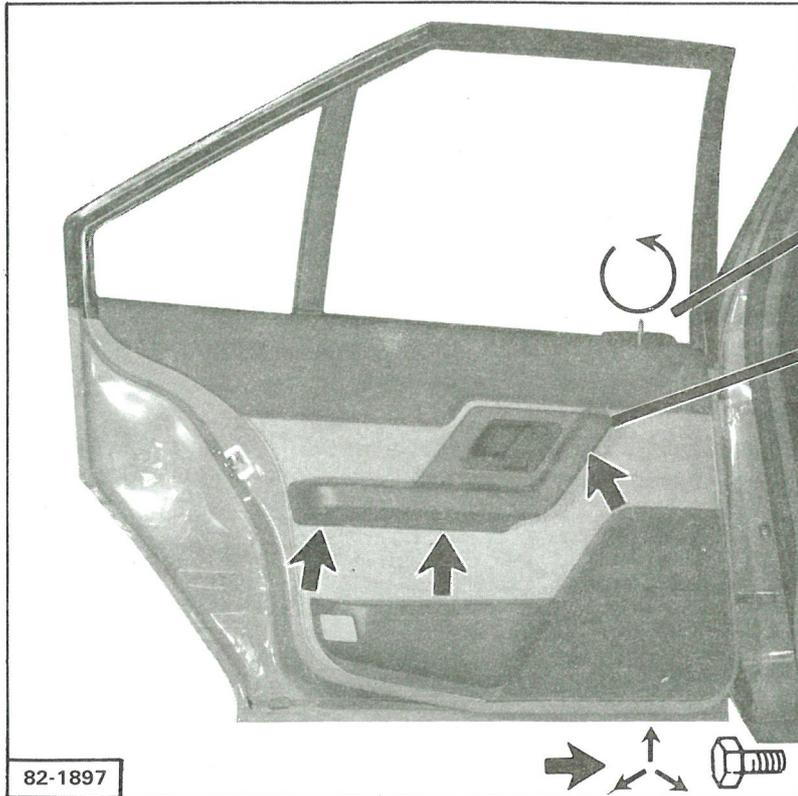


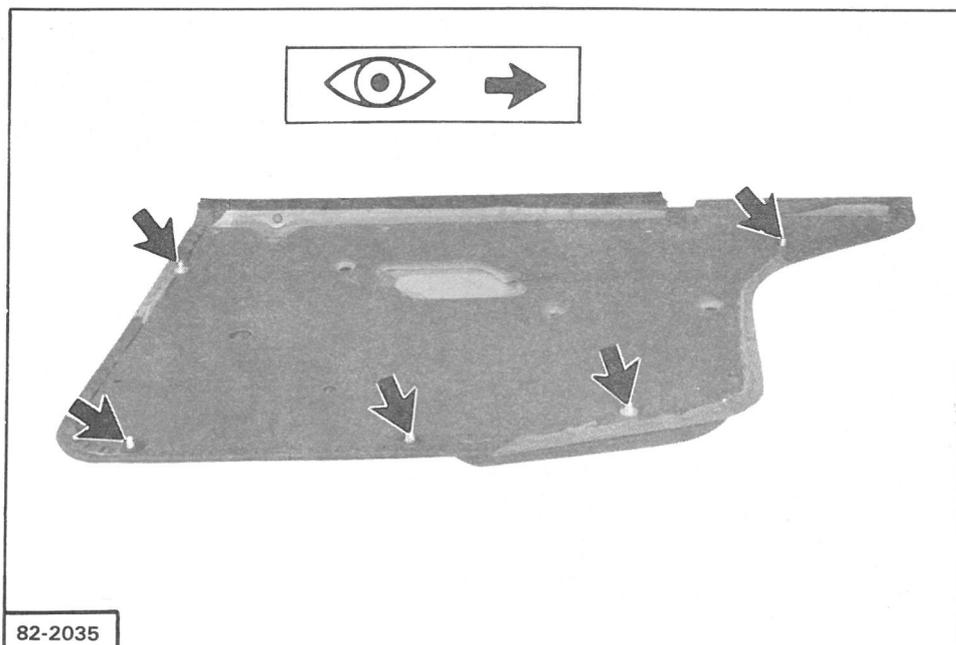
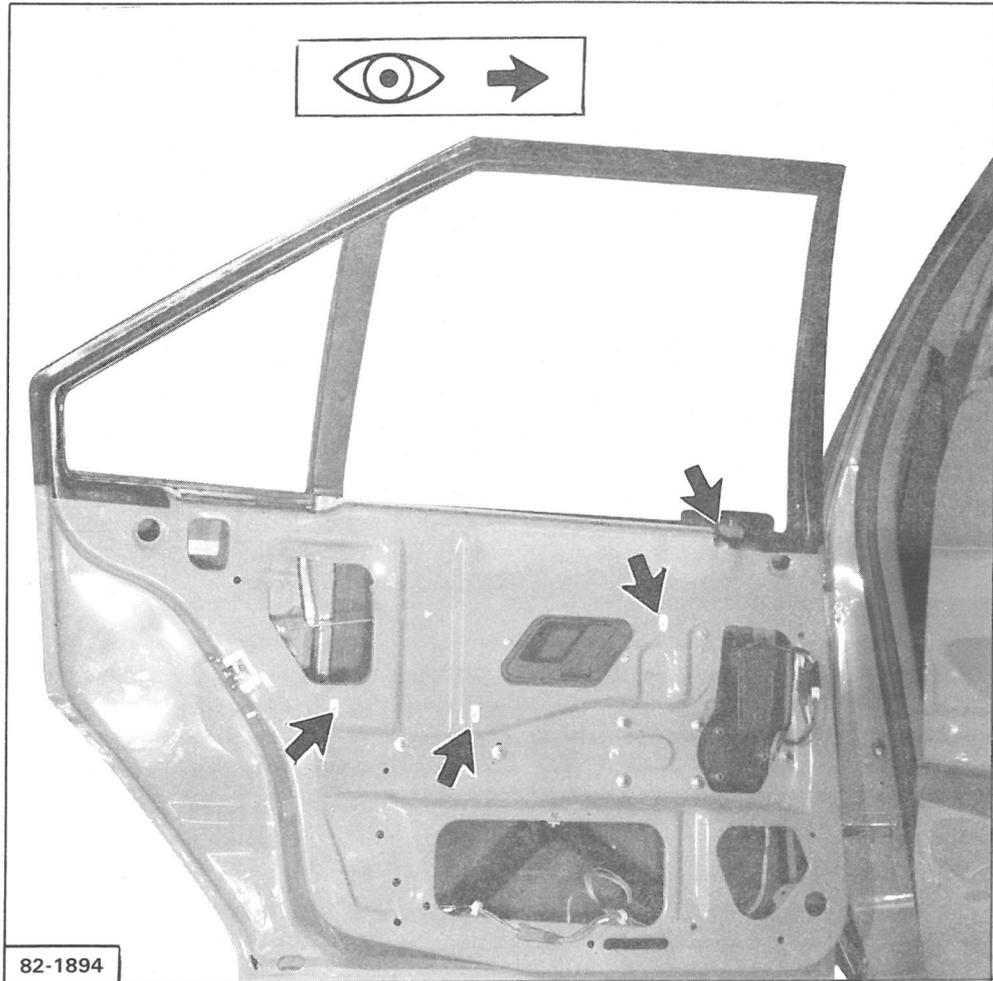


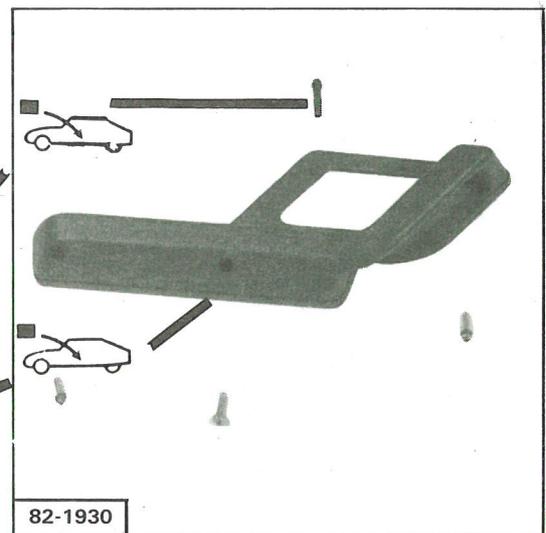
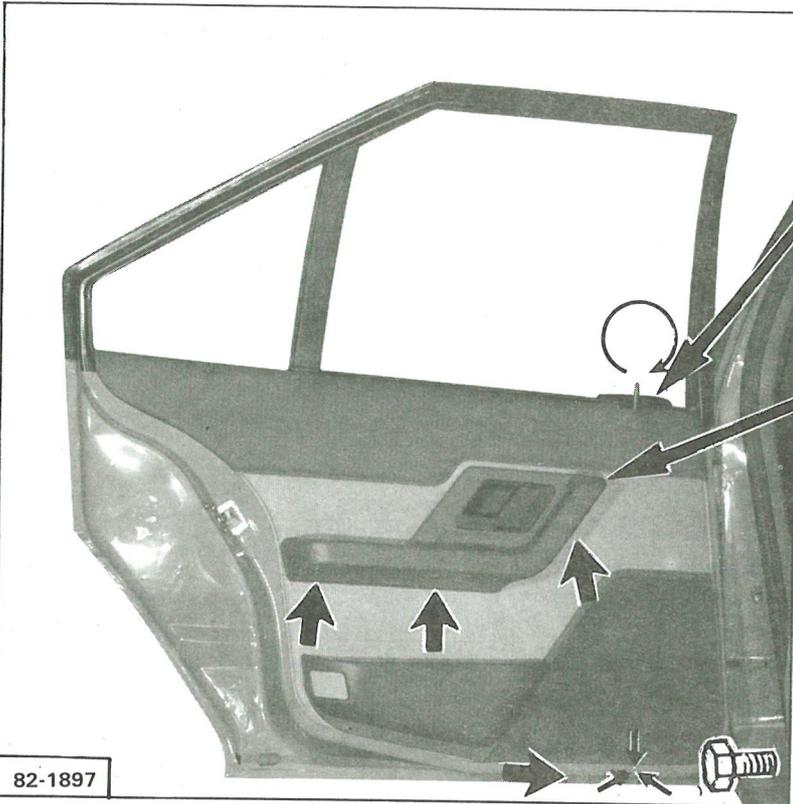
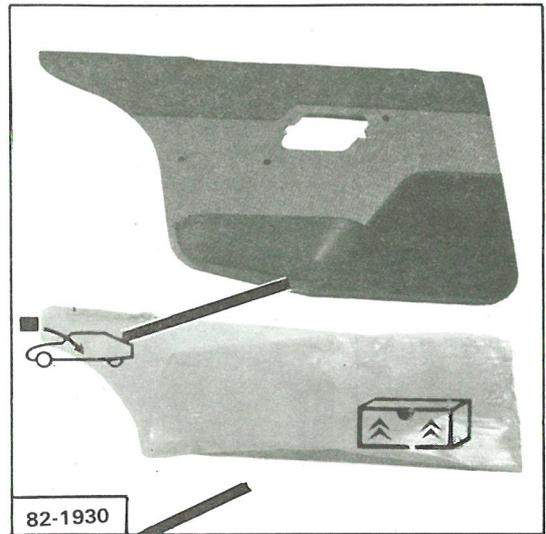
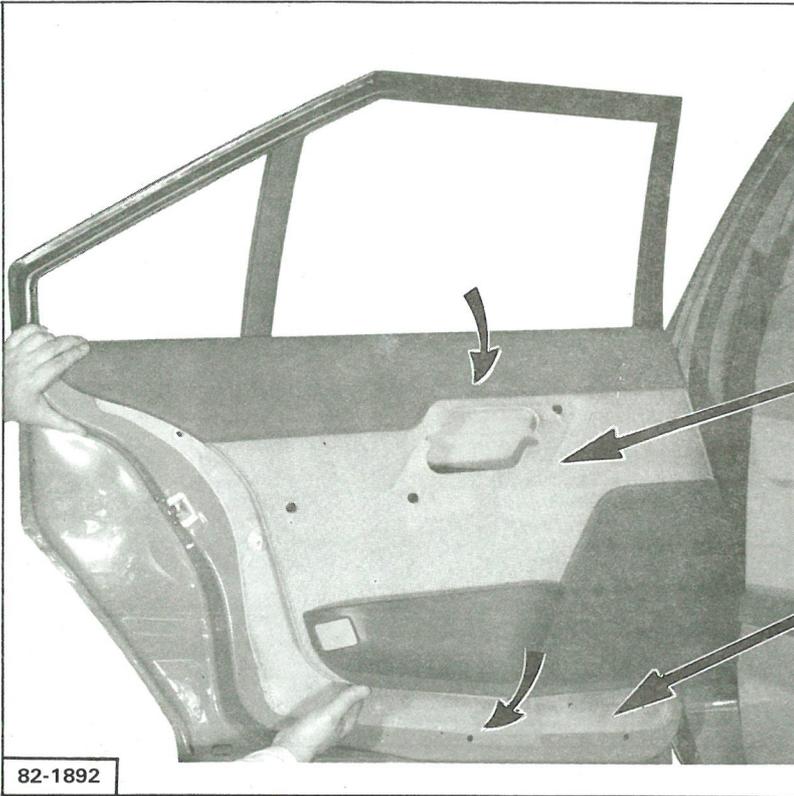
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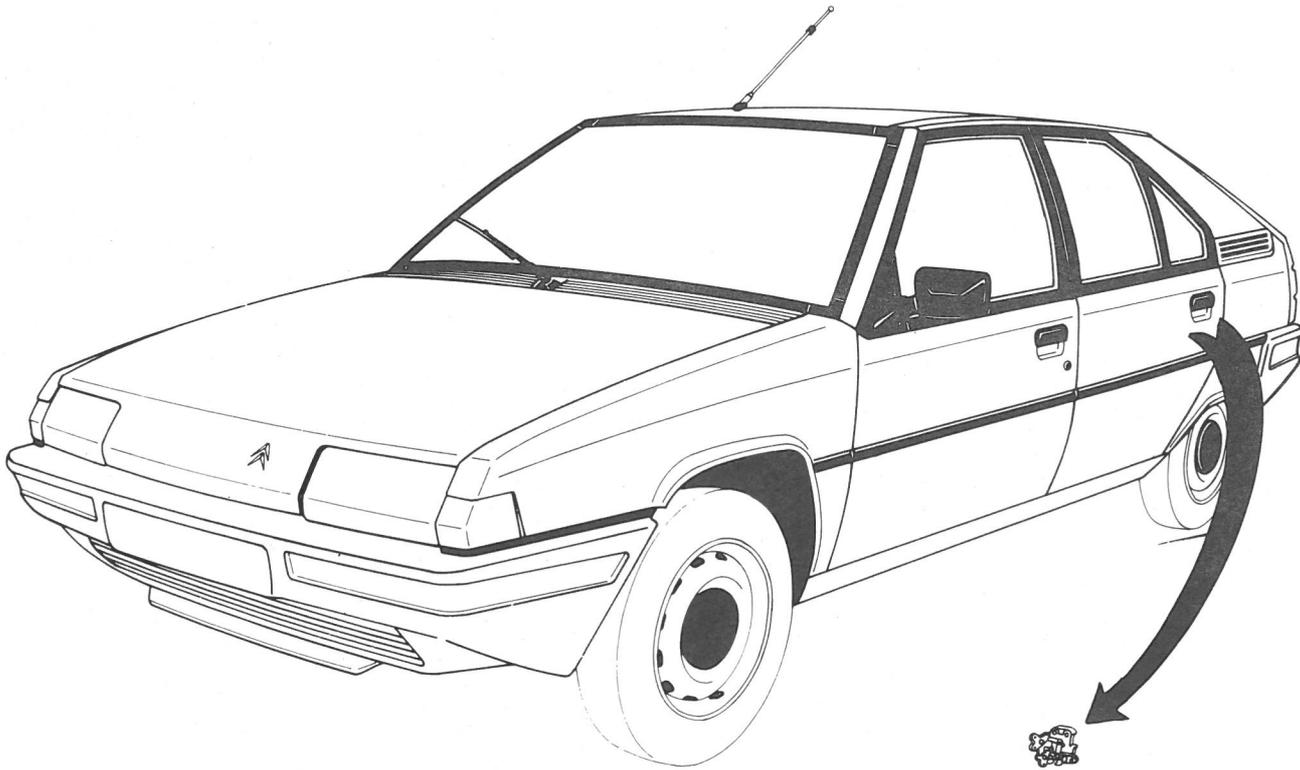


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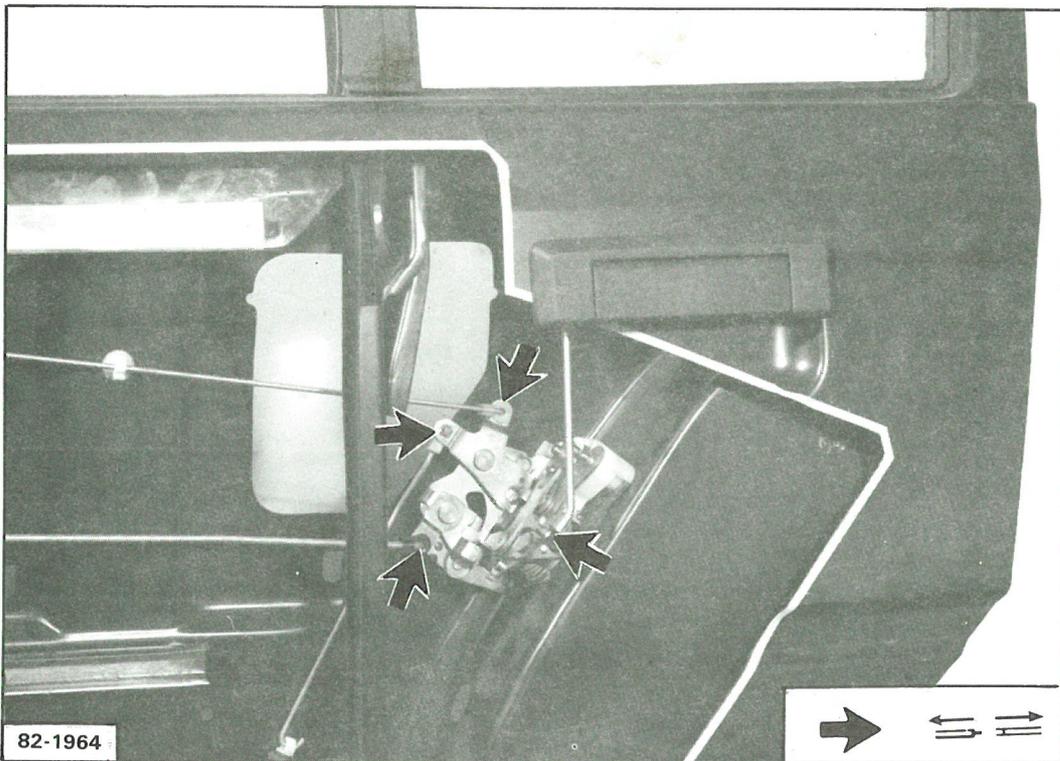
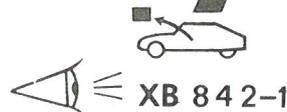
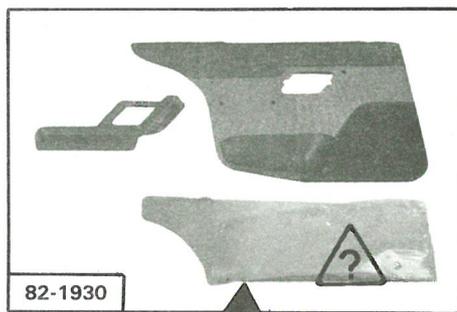
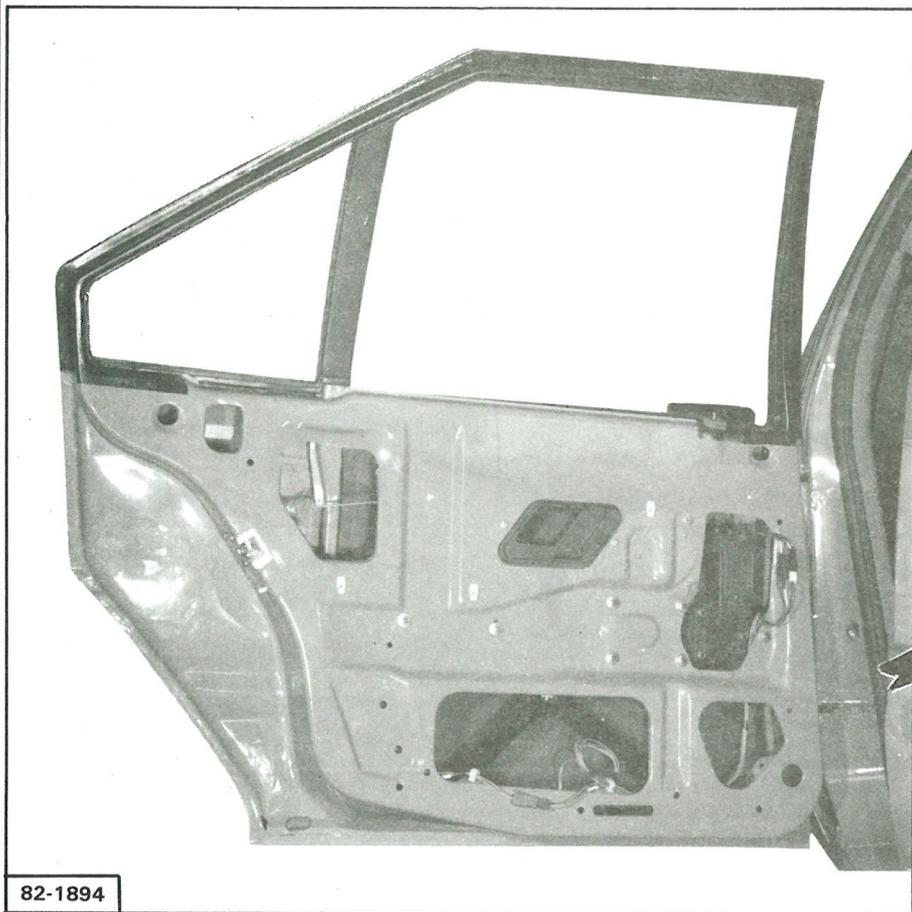


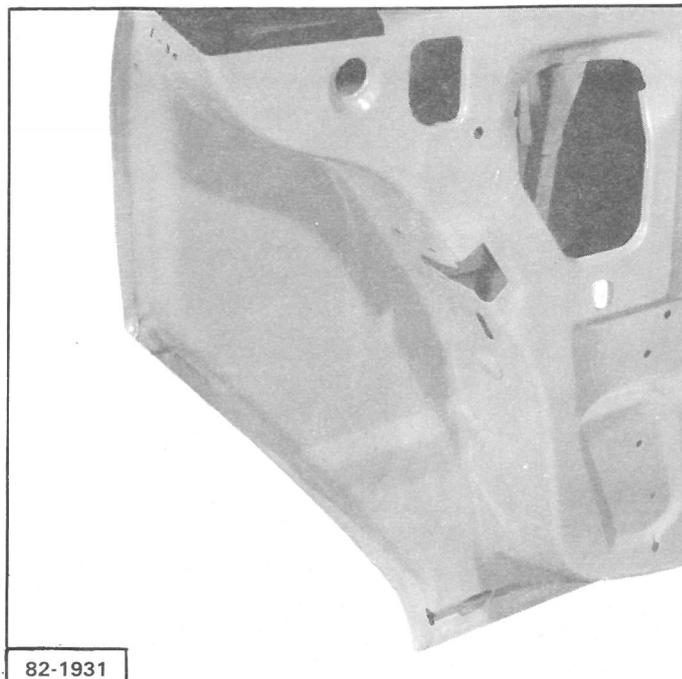
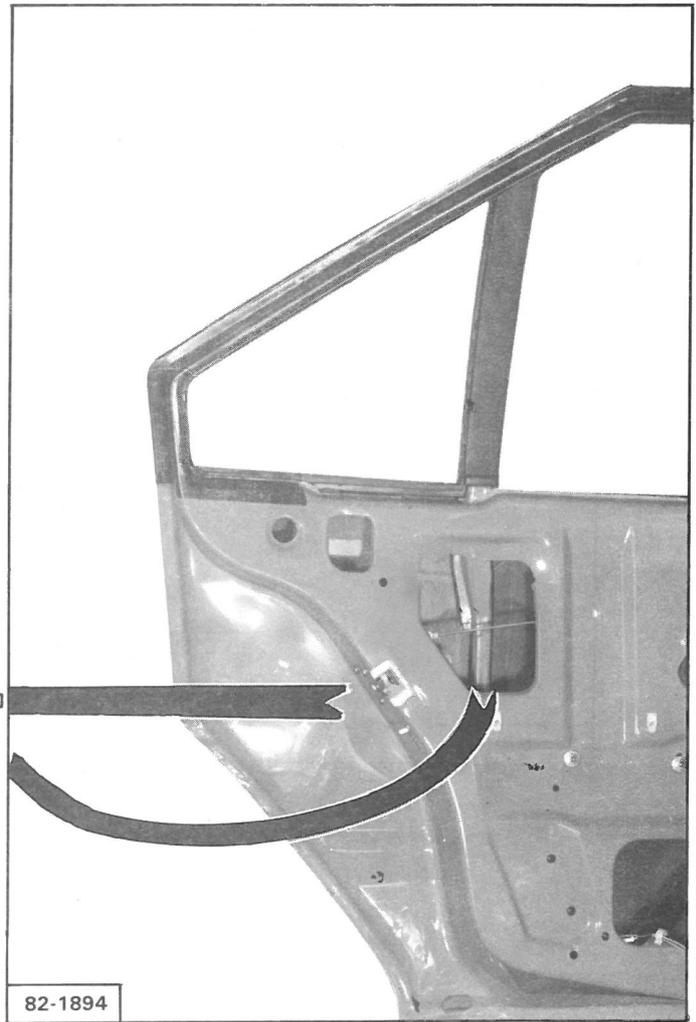
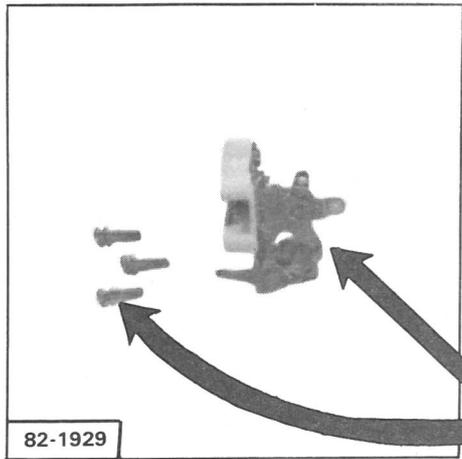


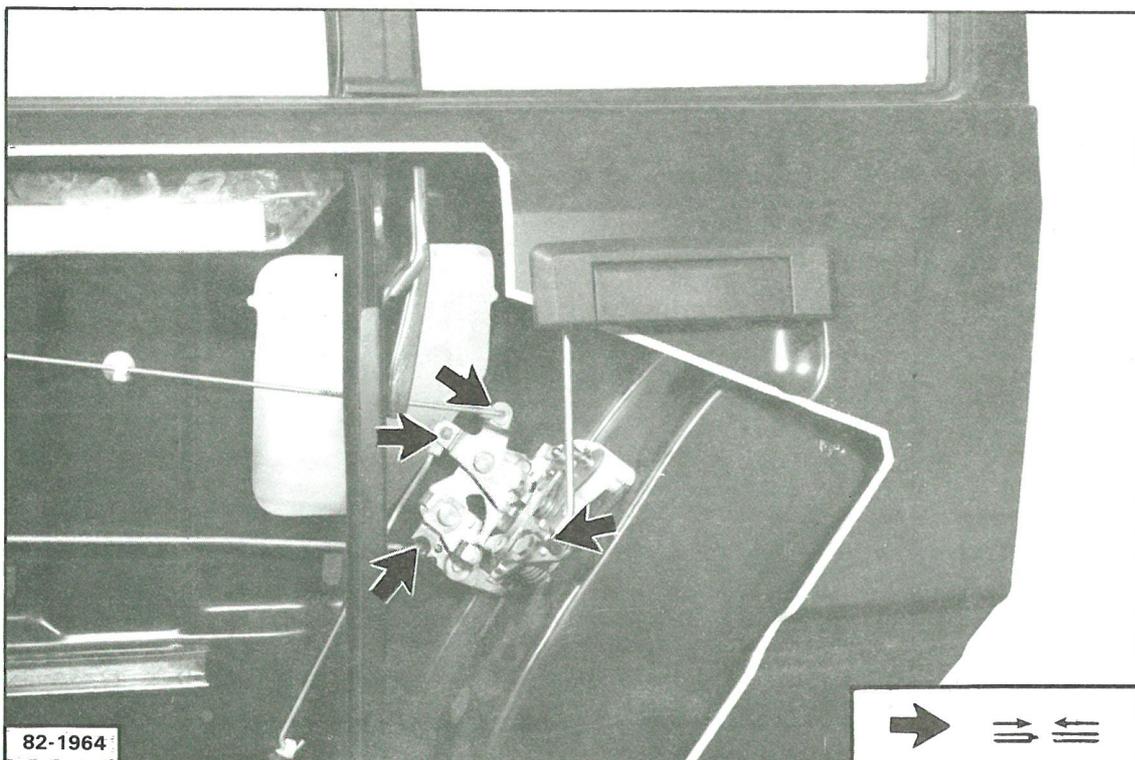
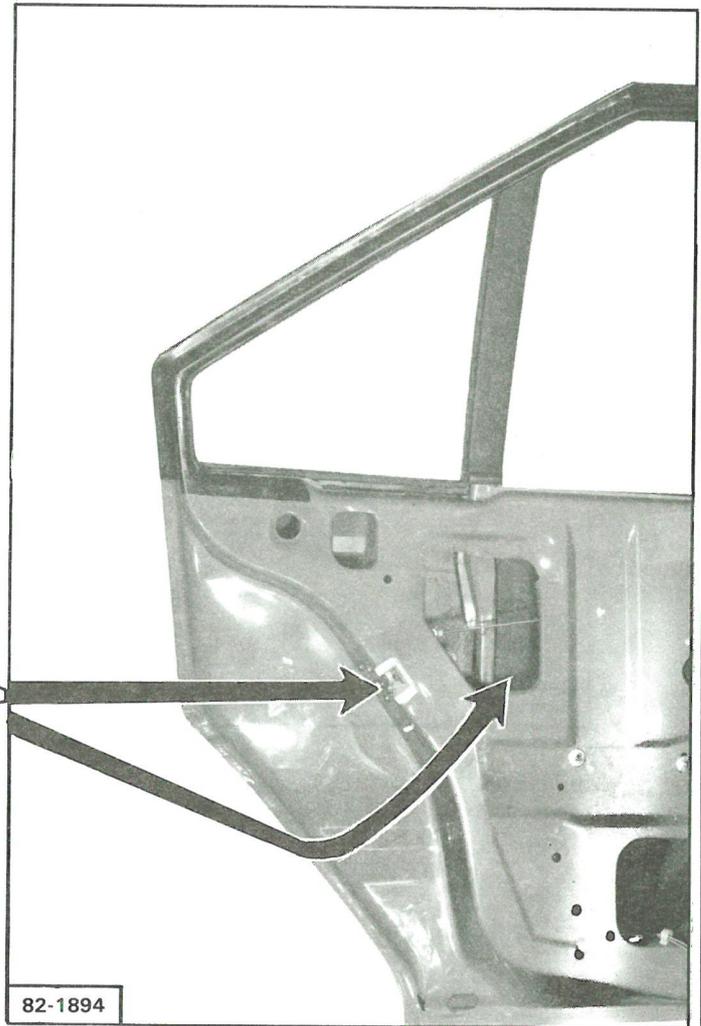
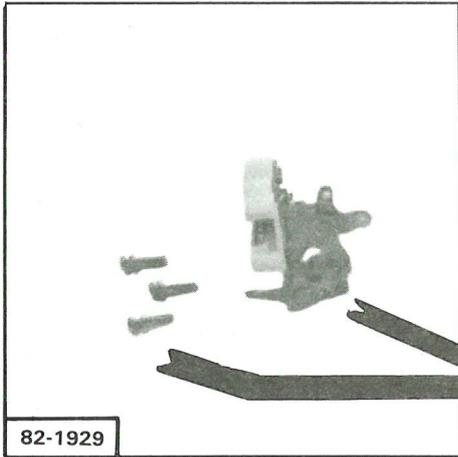


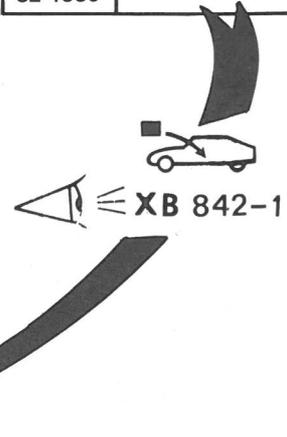
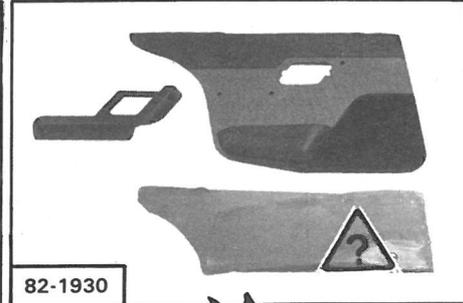
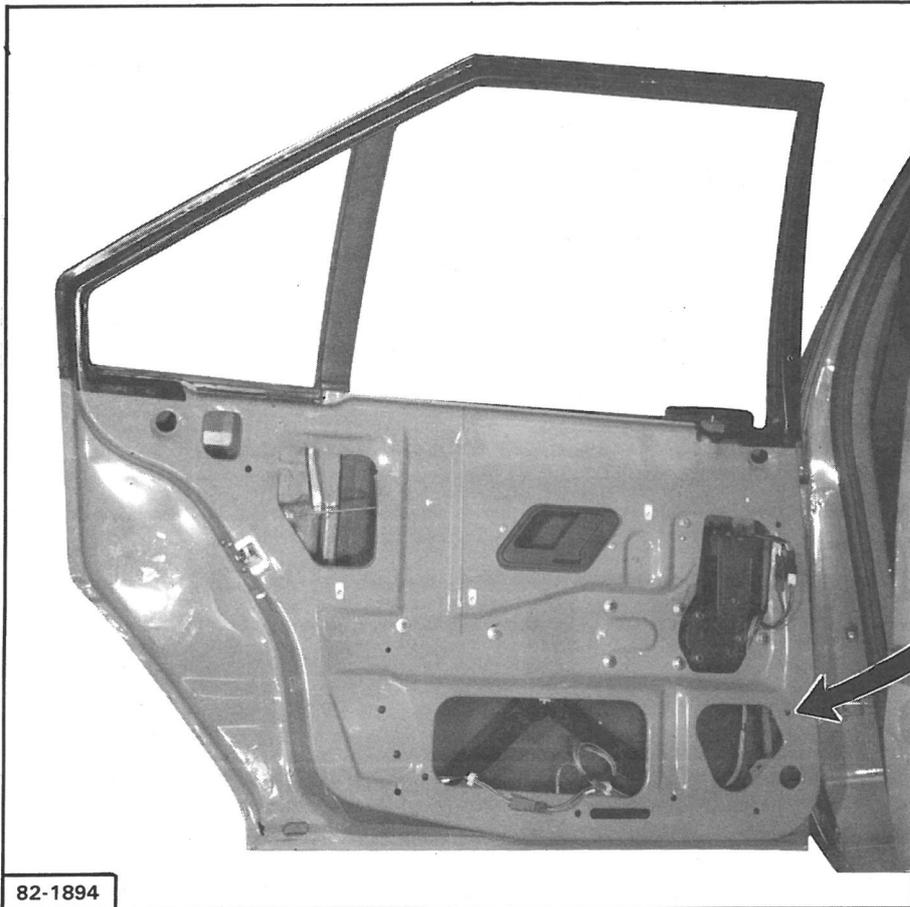


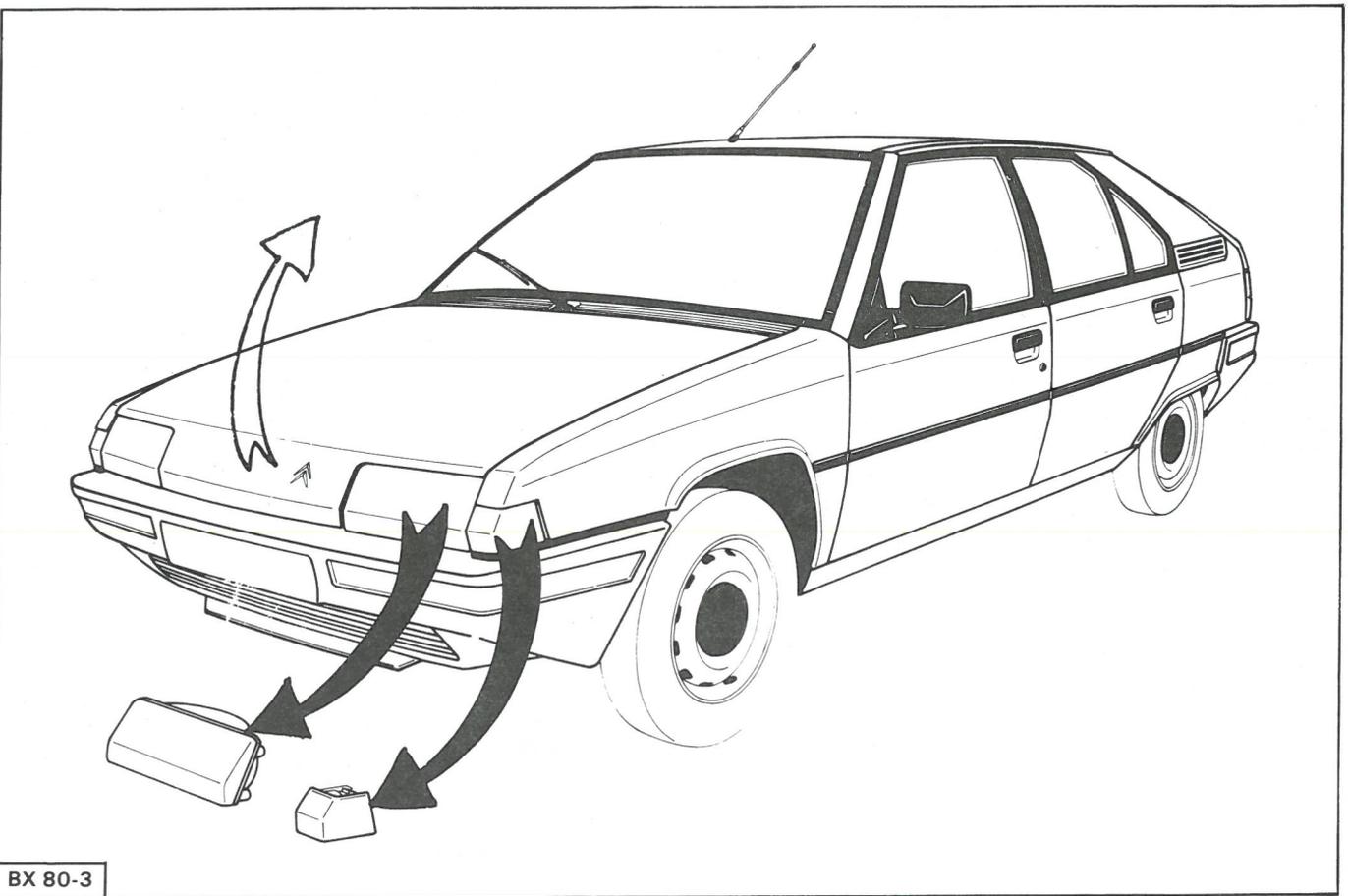
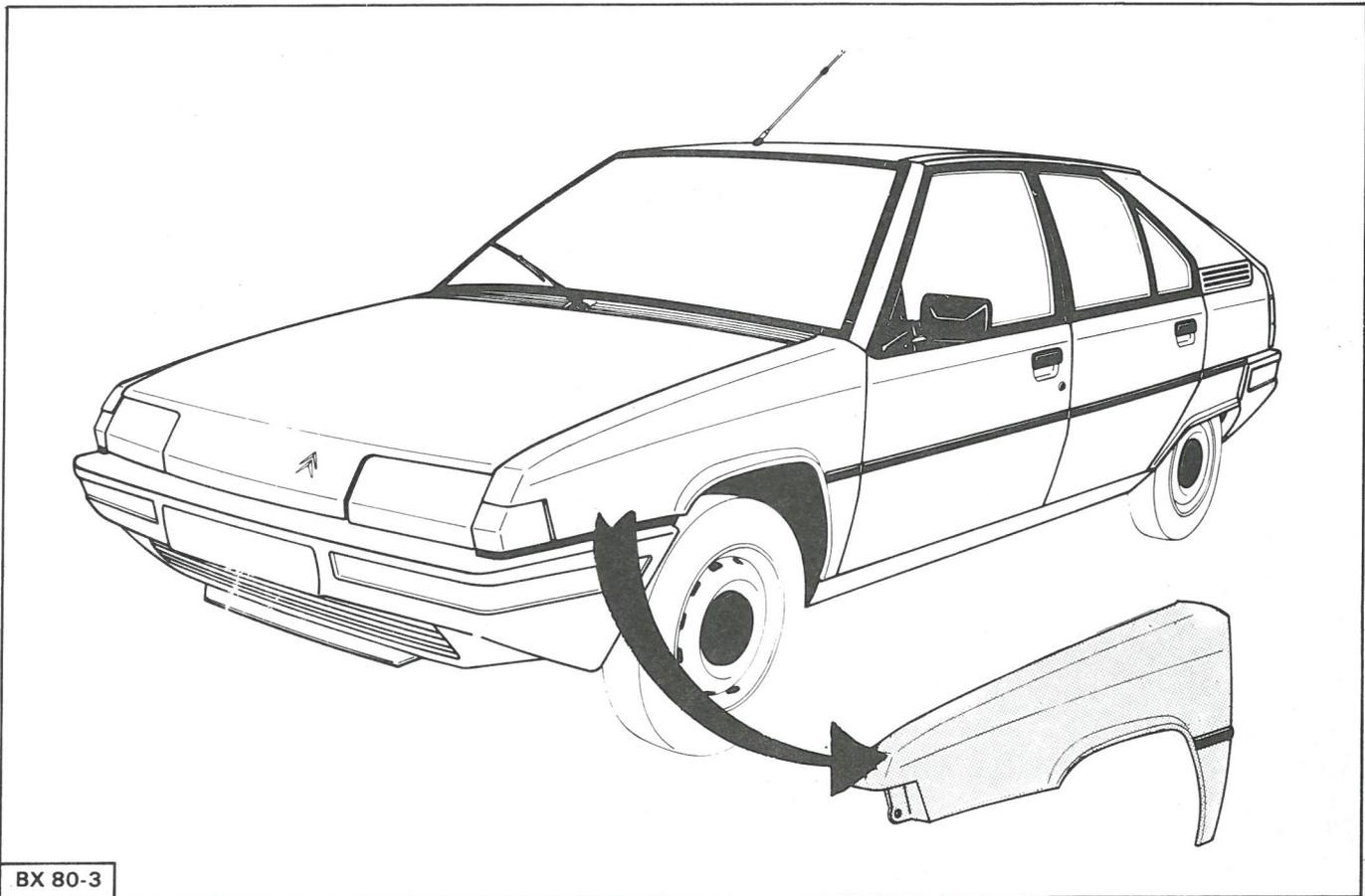
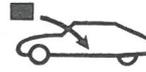
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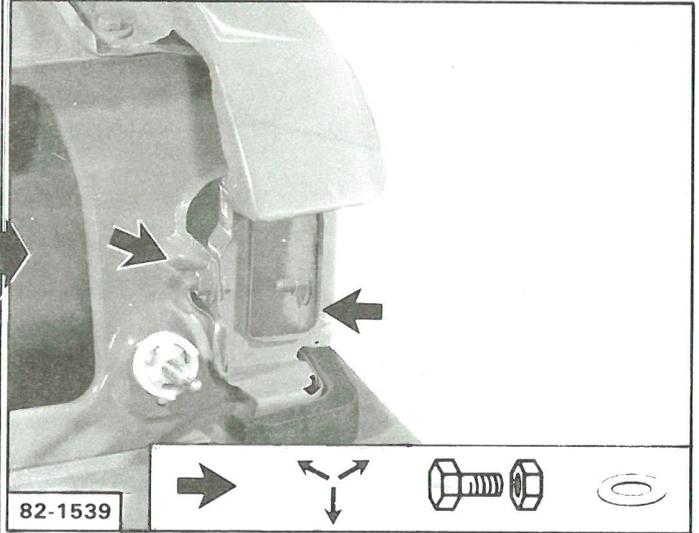
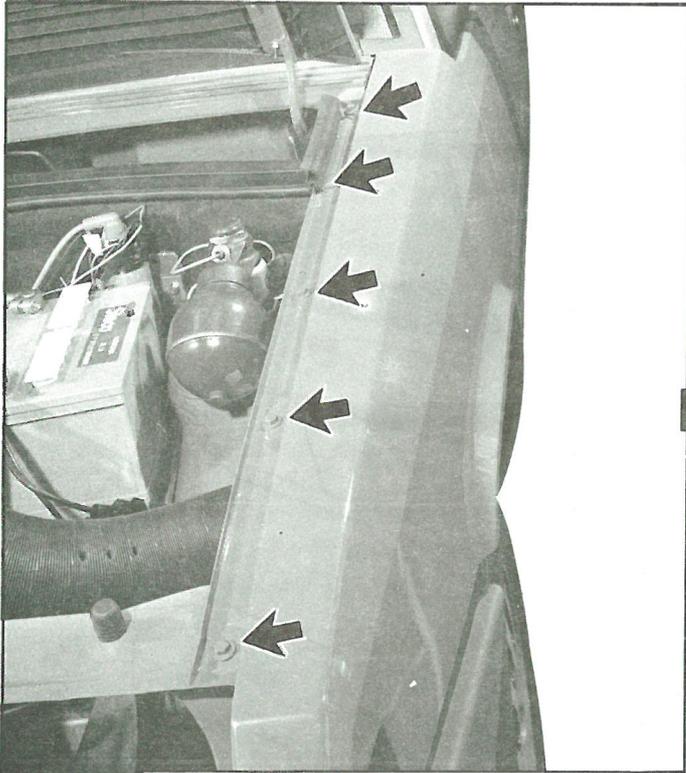




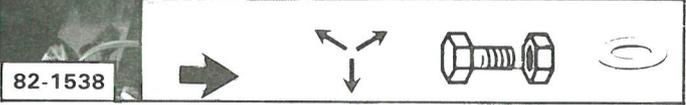




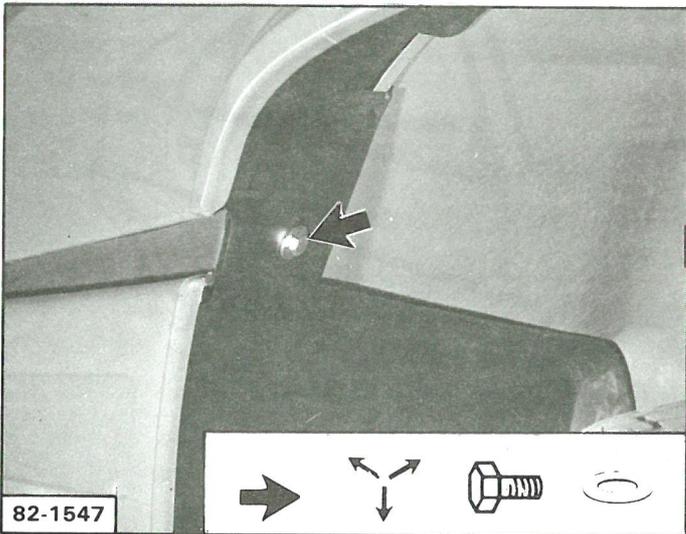




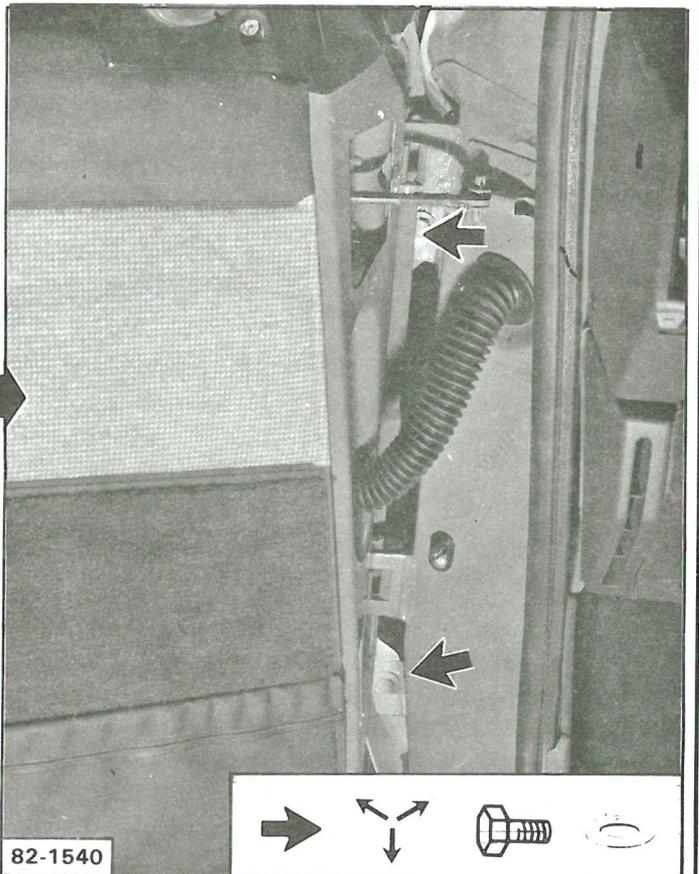
82-1539



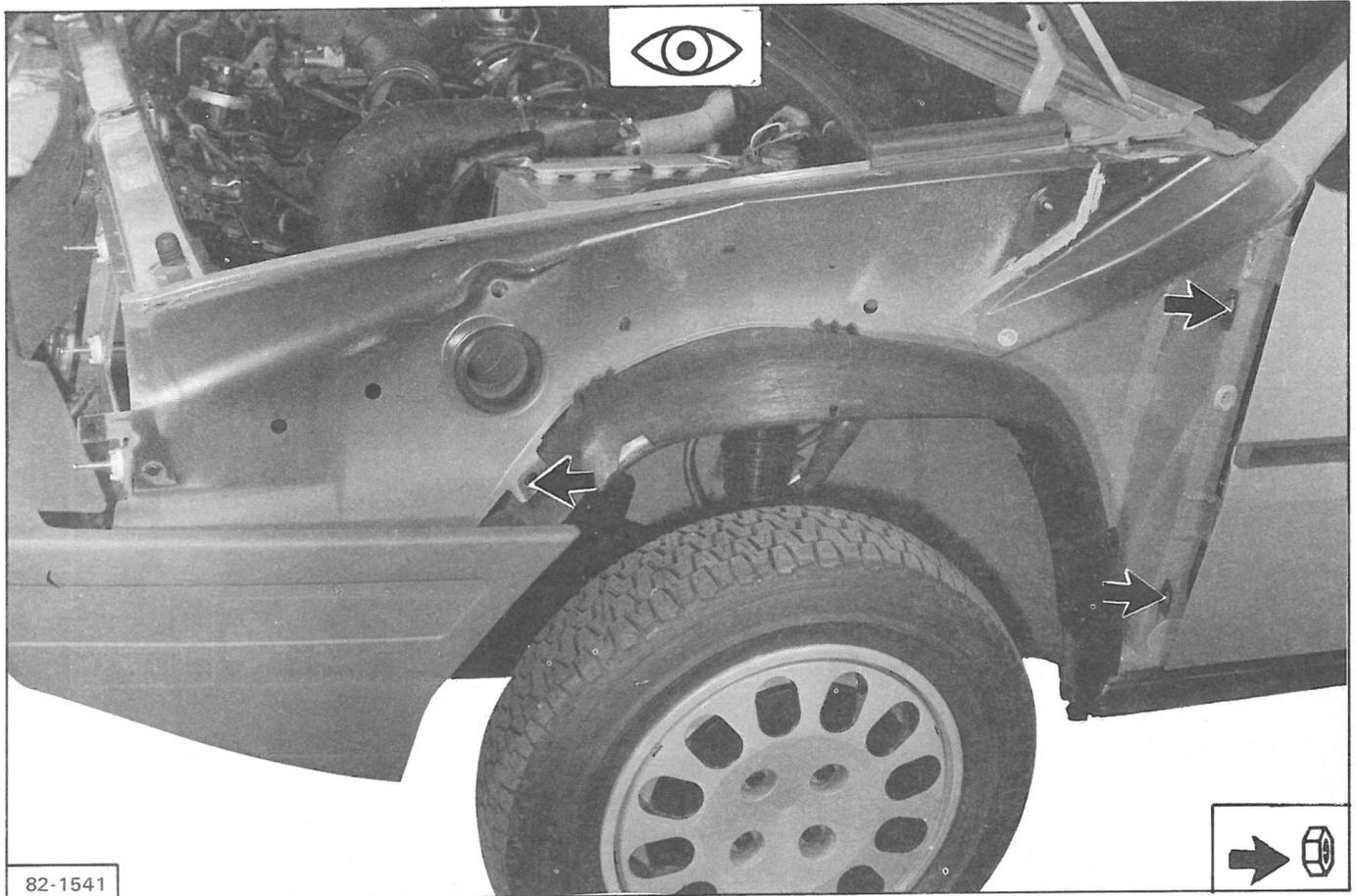
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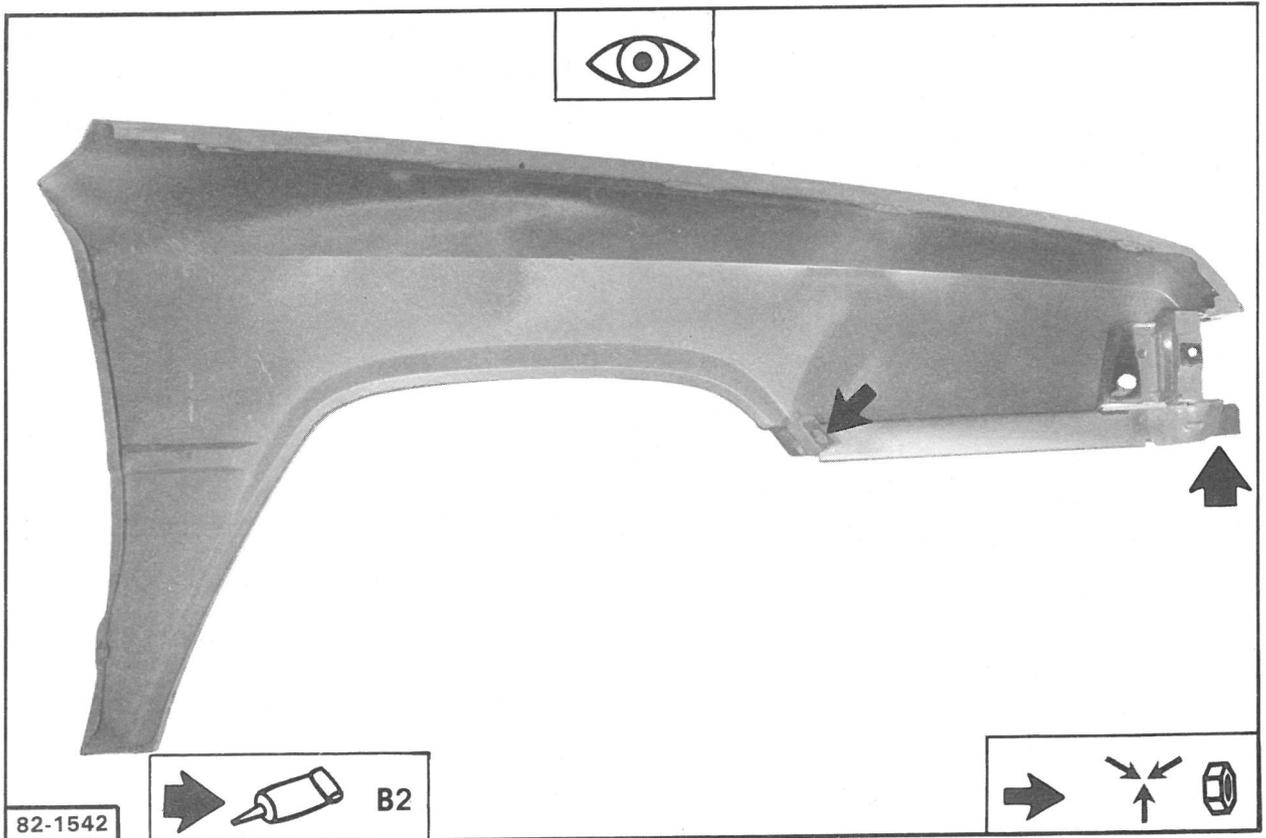
82-1547



82-1540



82-1541

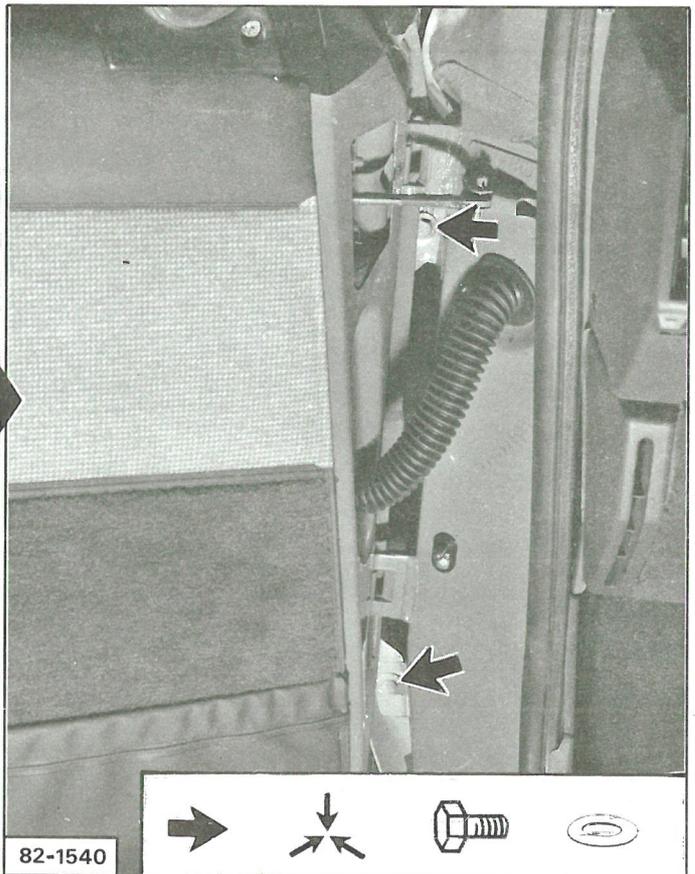
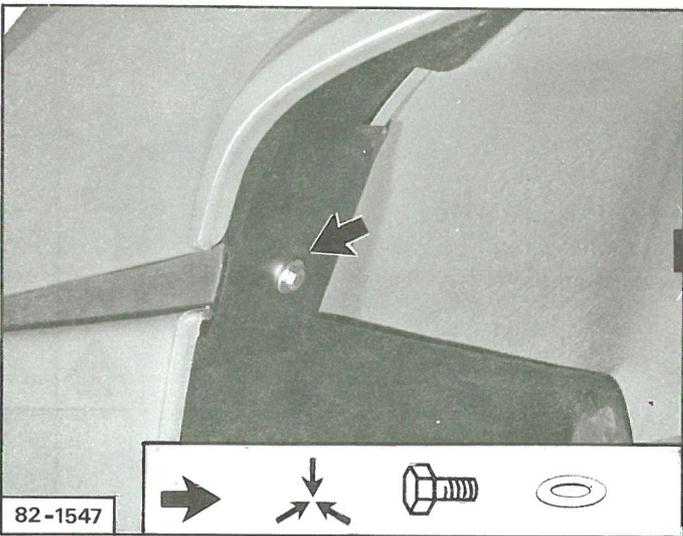
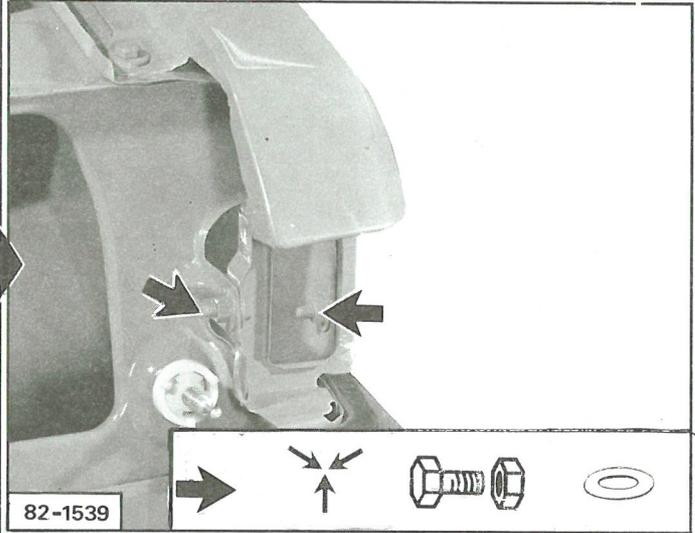
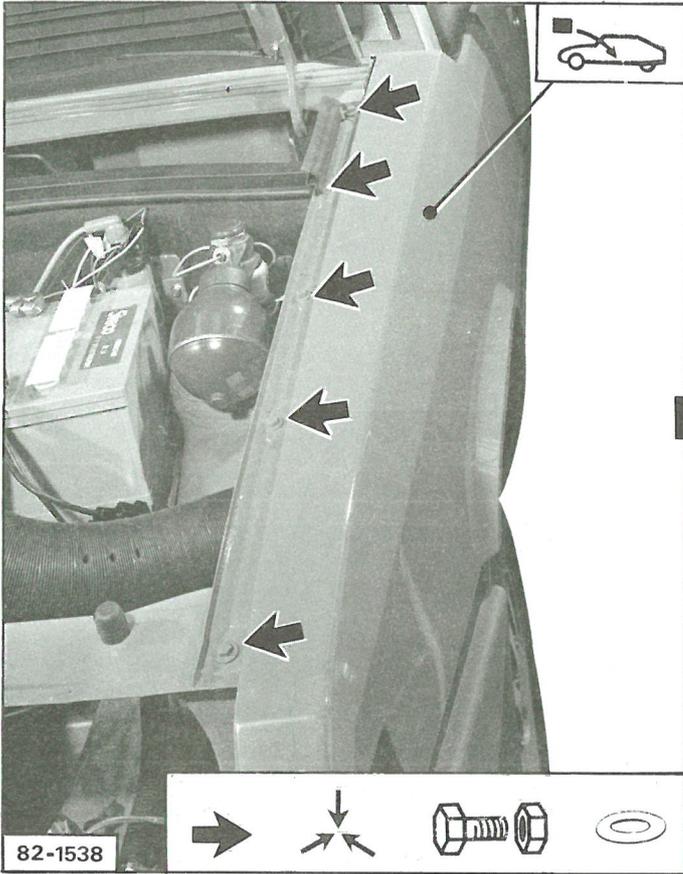


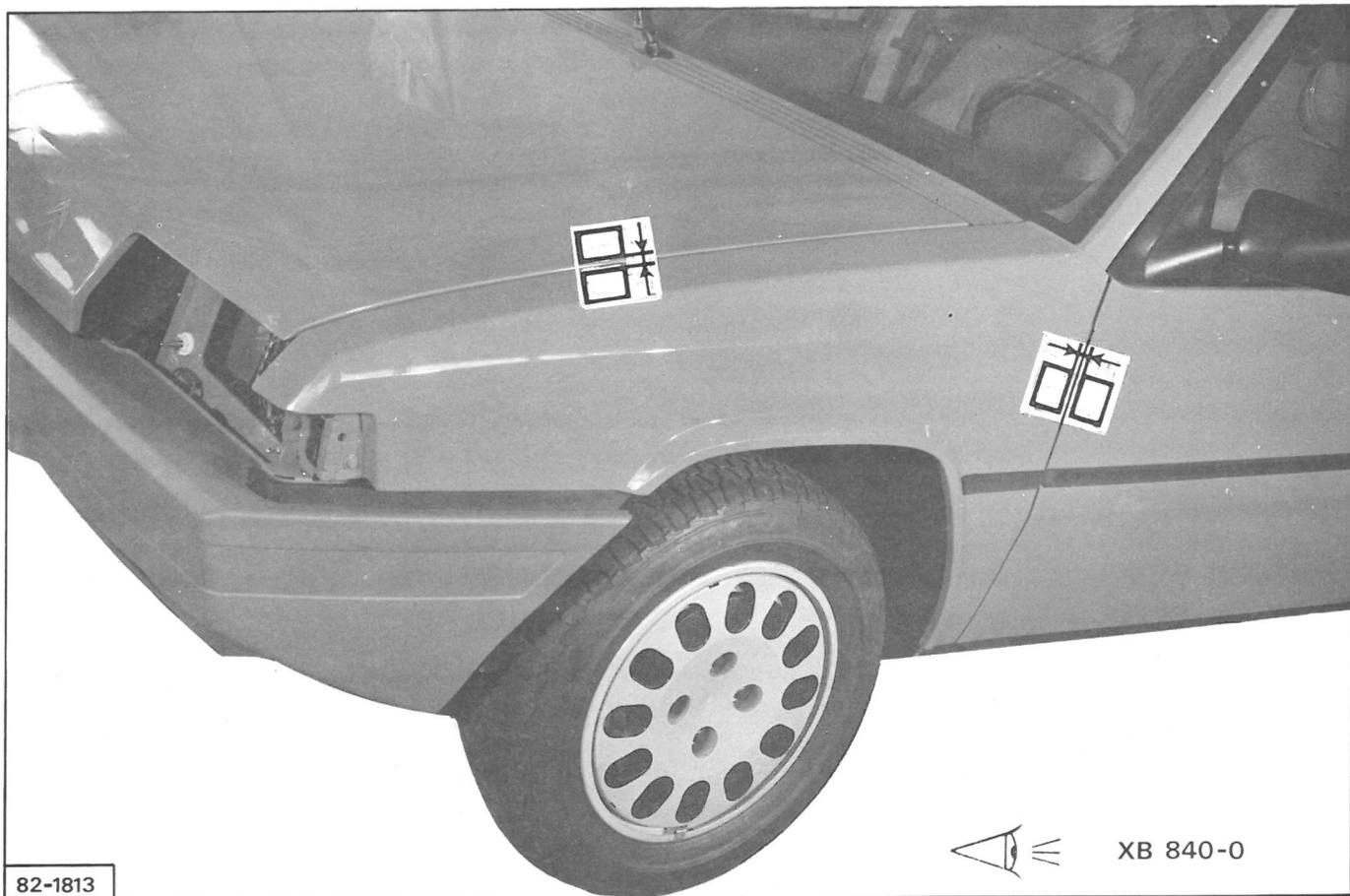
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B2



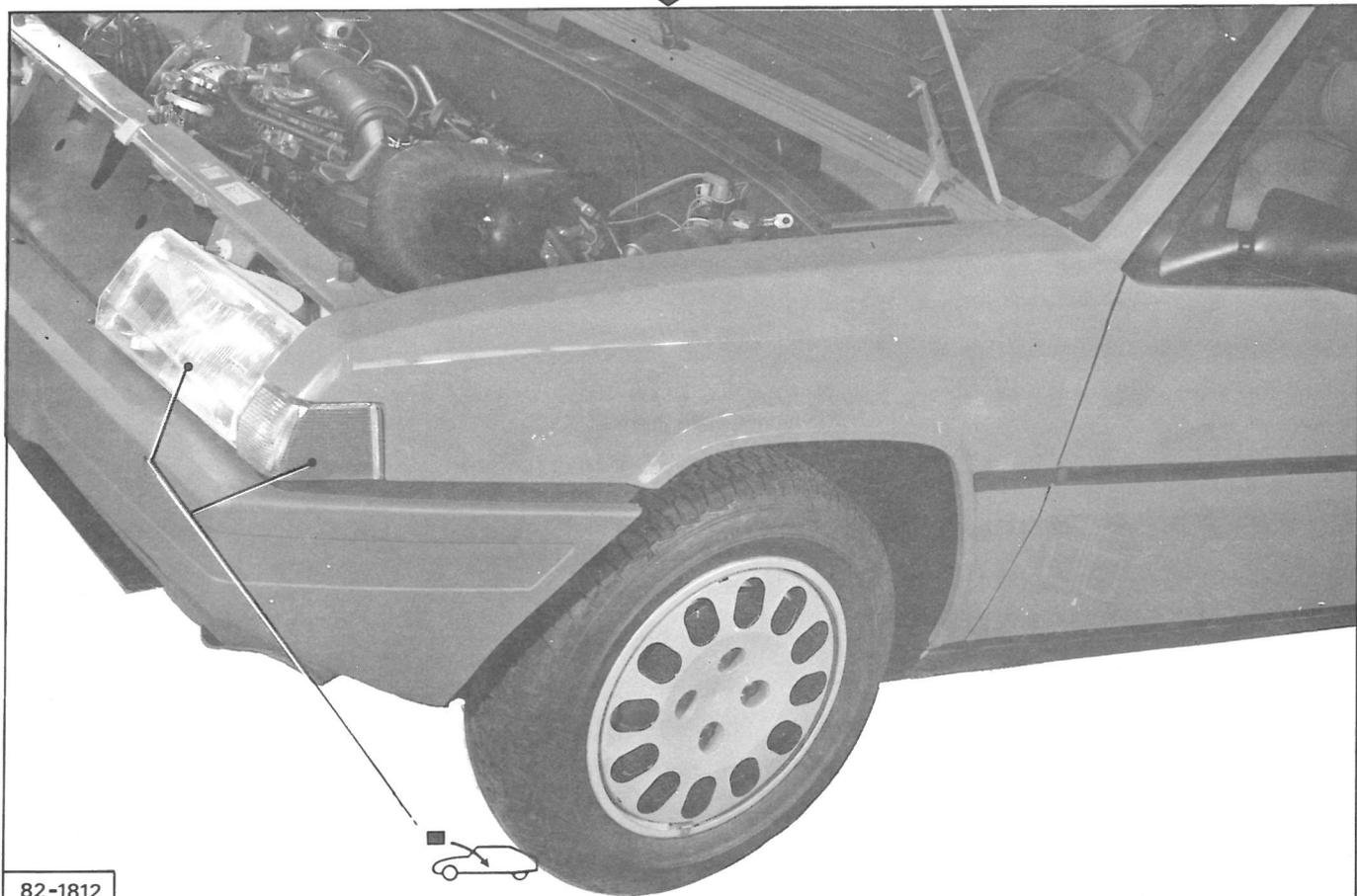




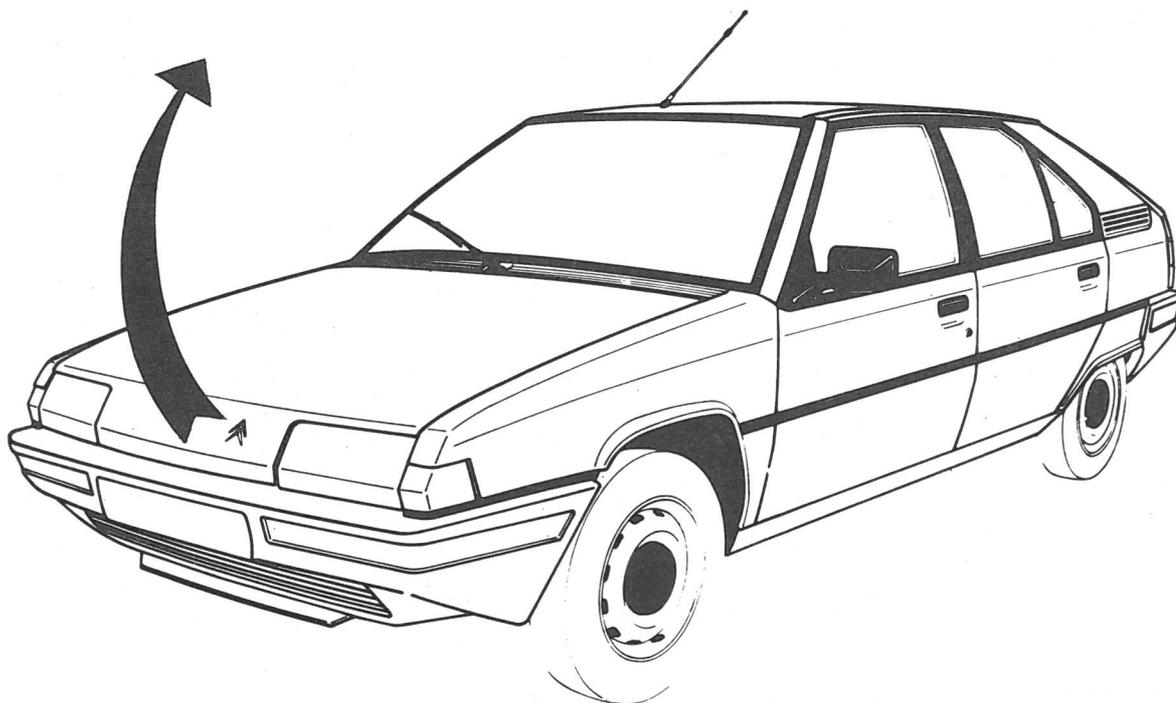
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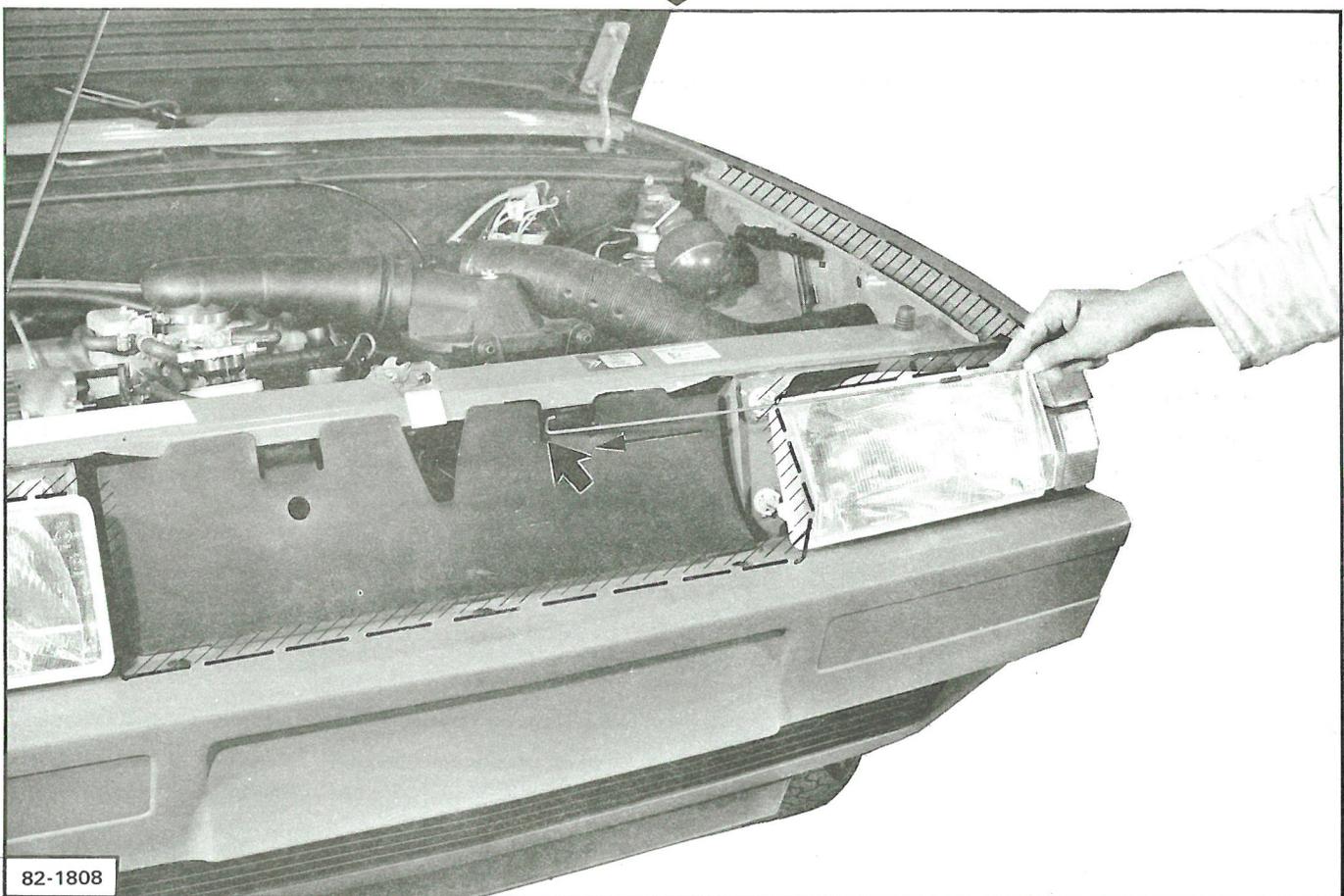
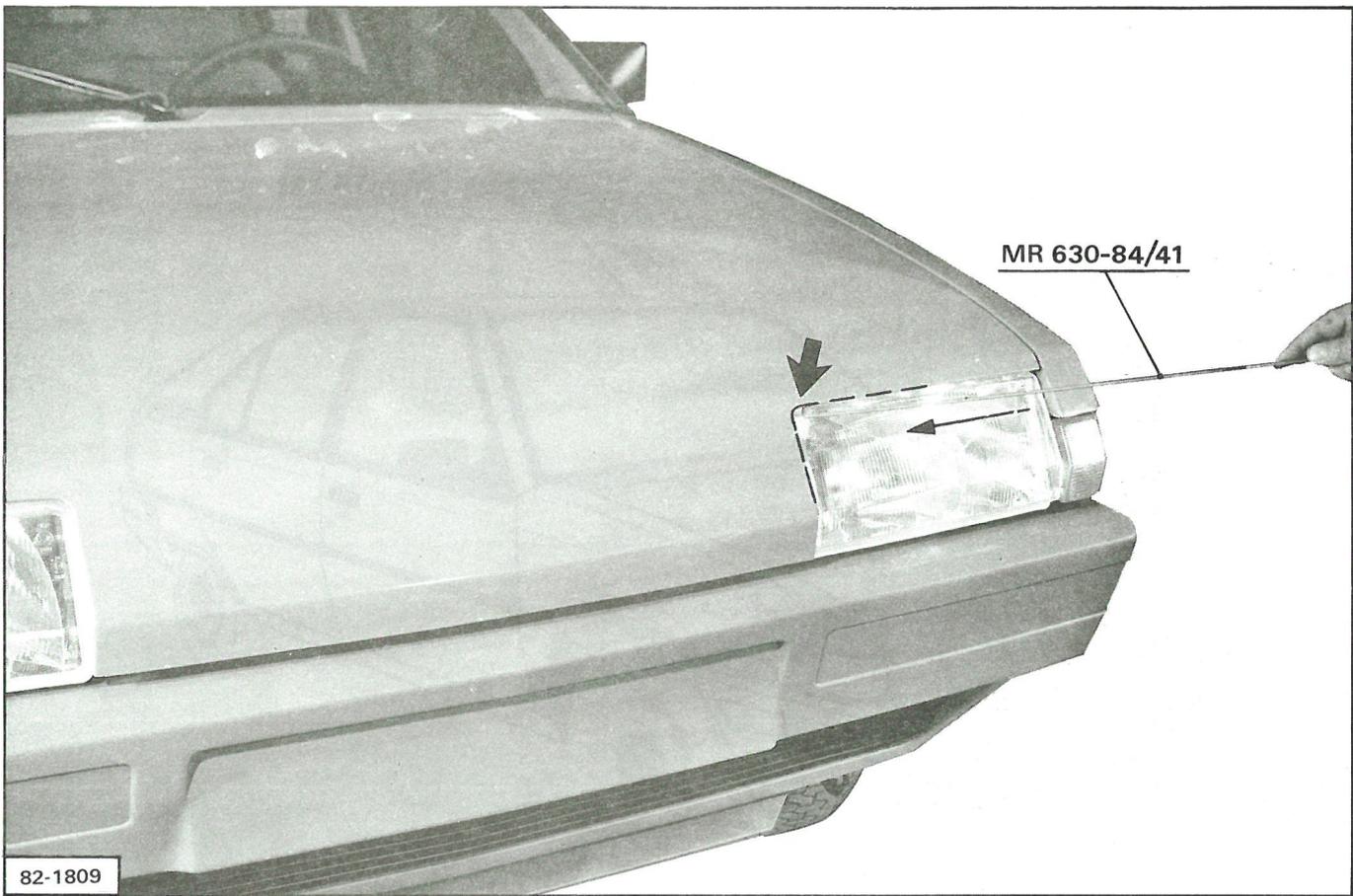
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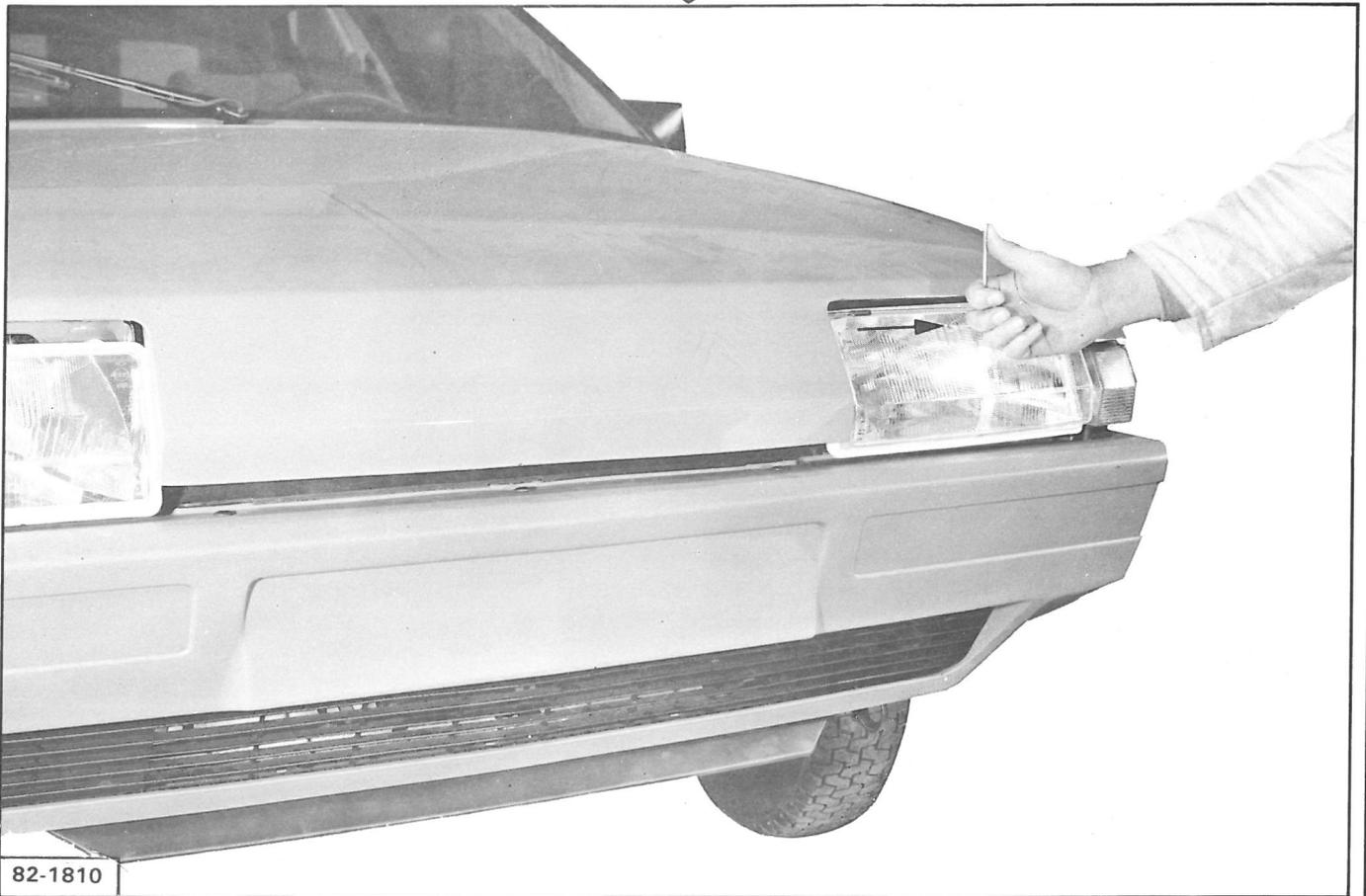


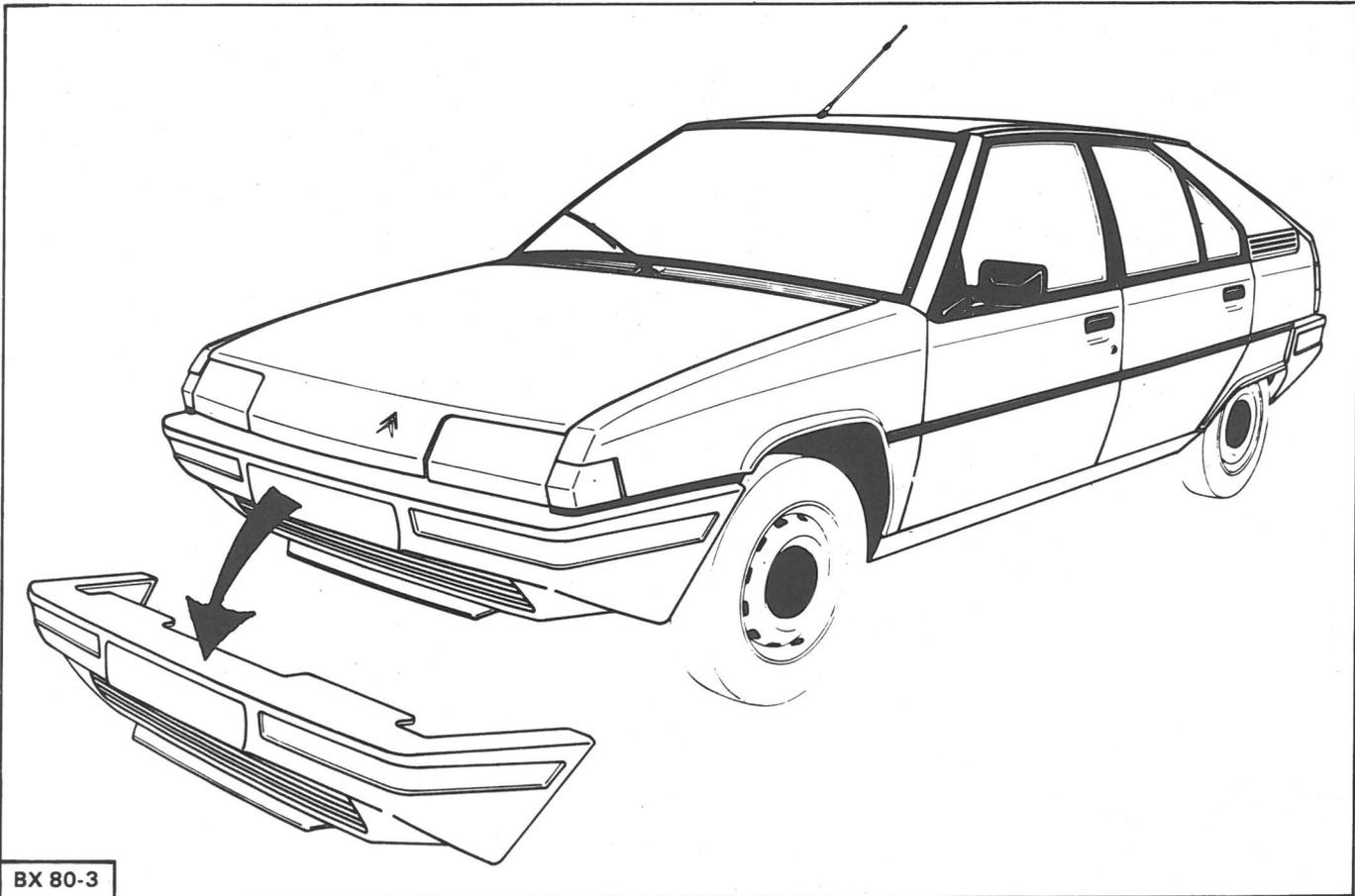
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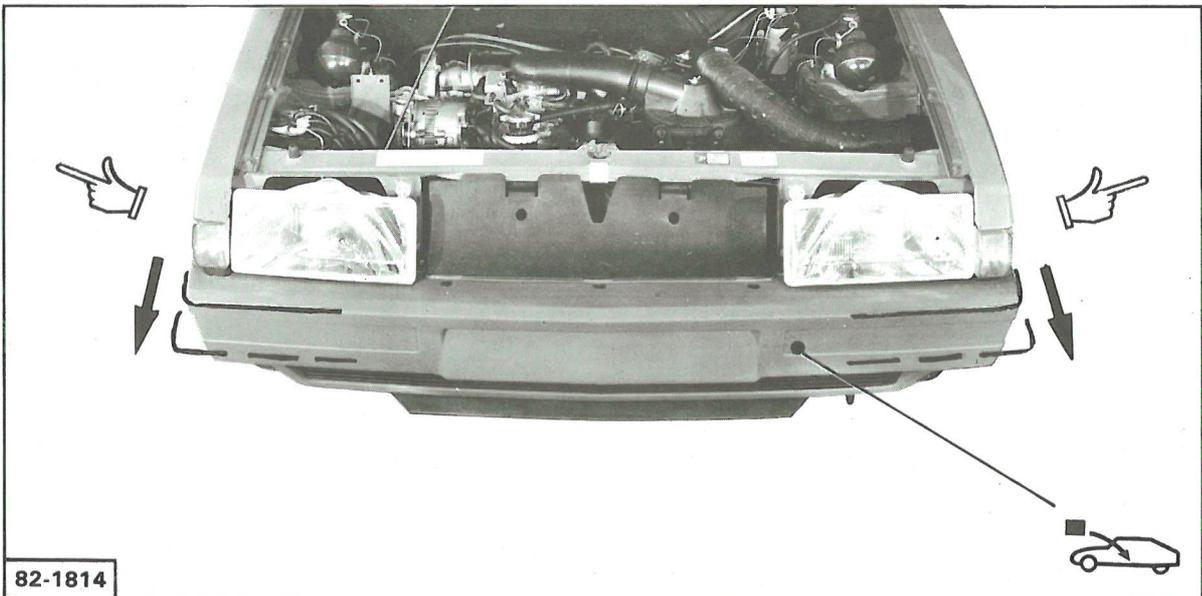
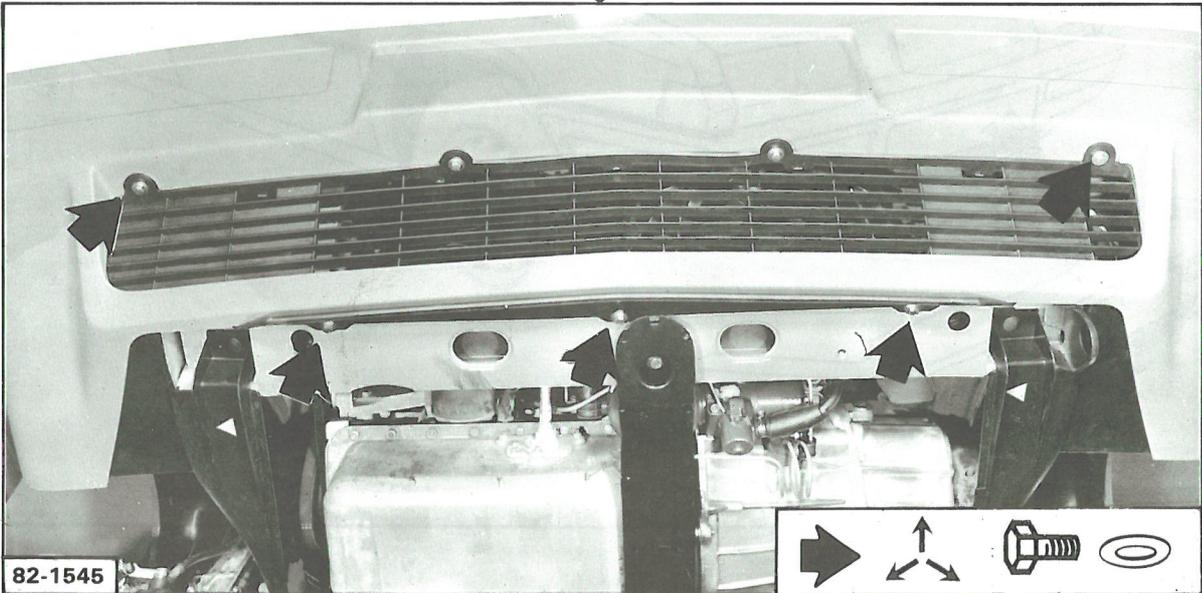
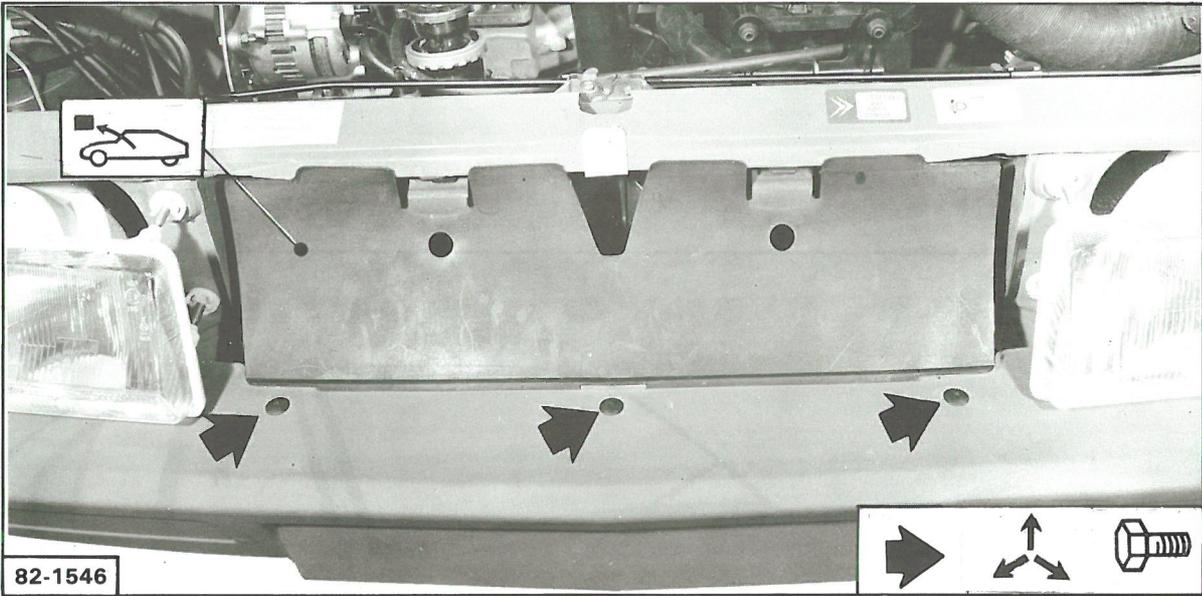
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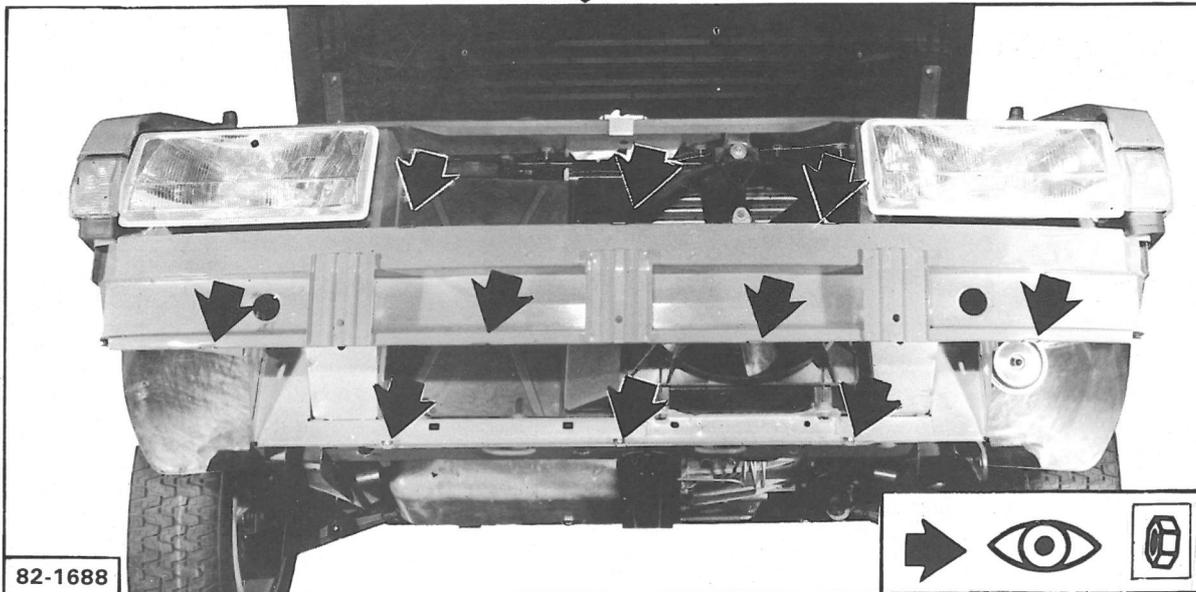
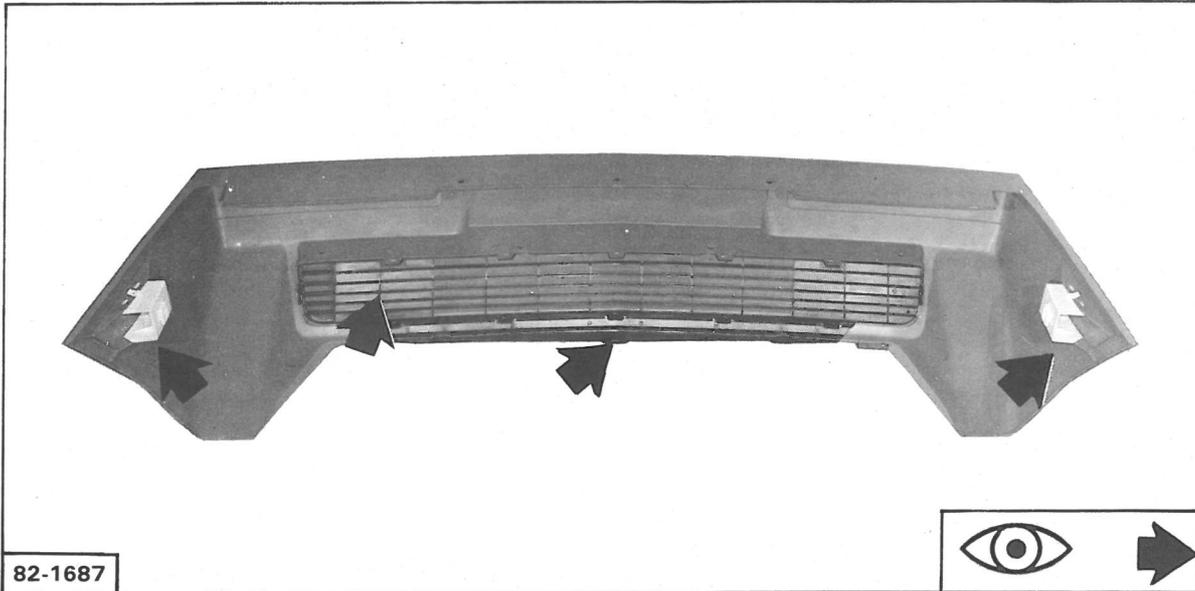
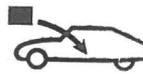


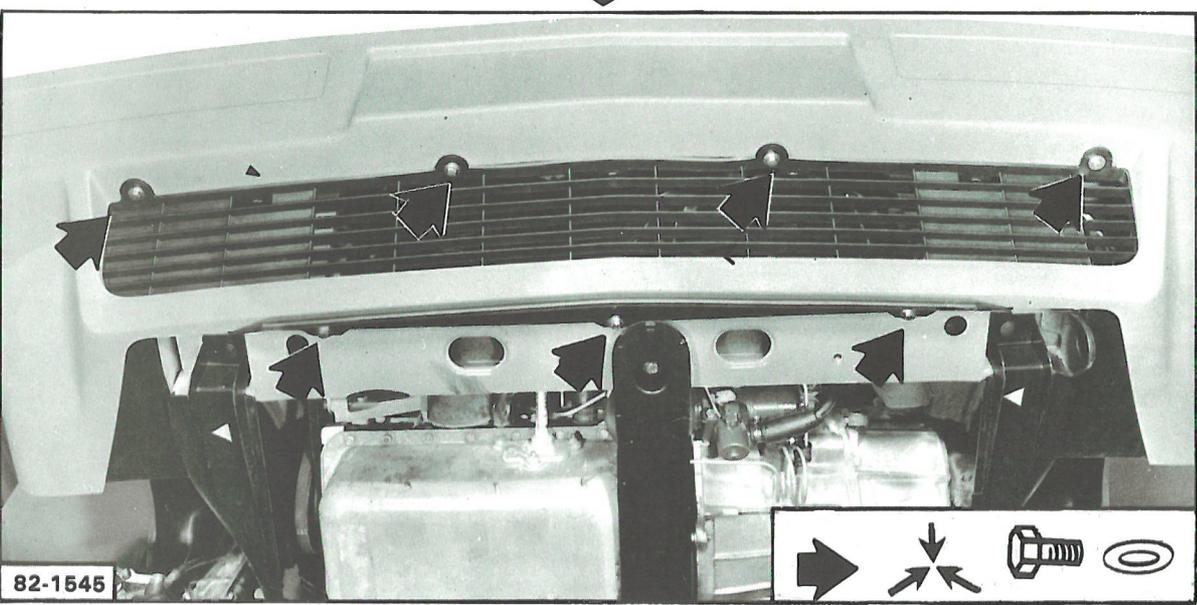
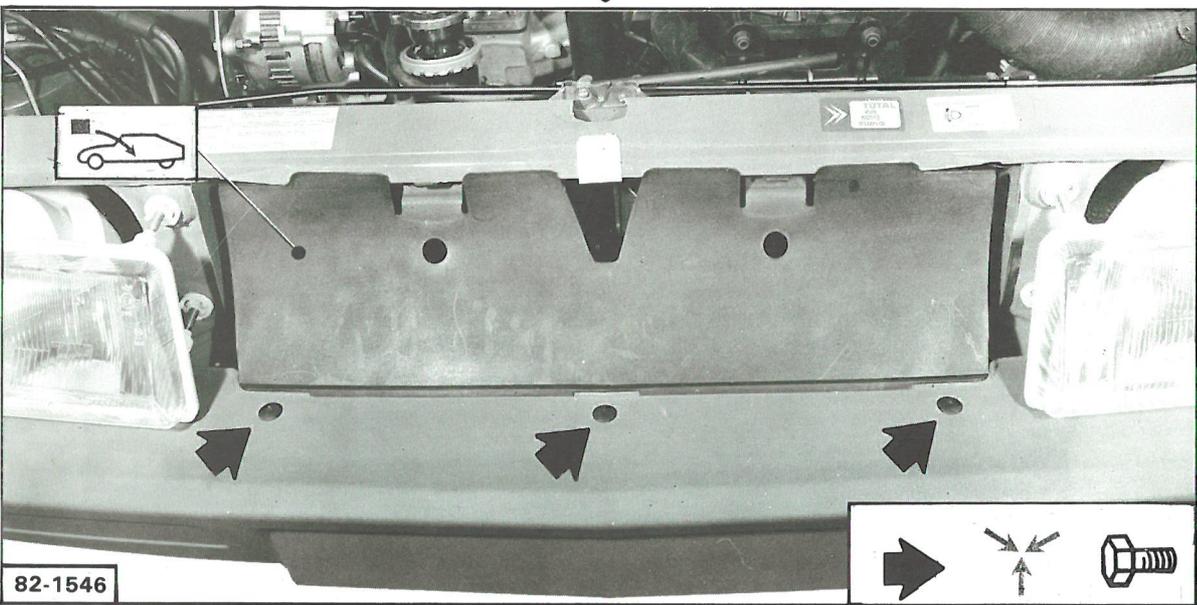
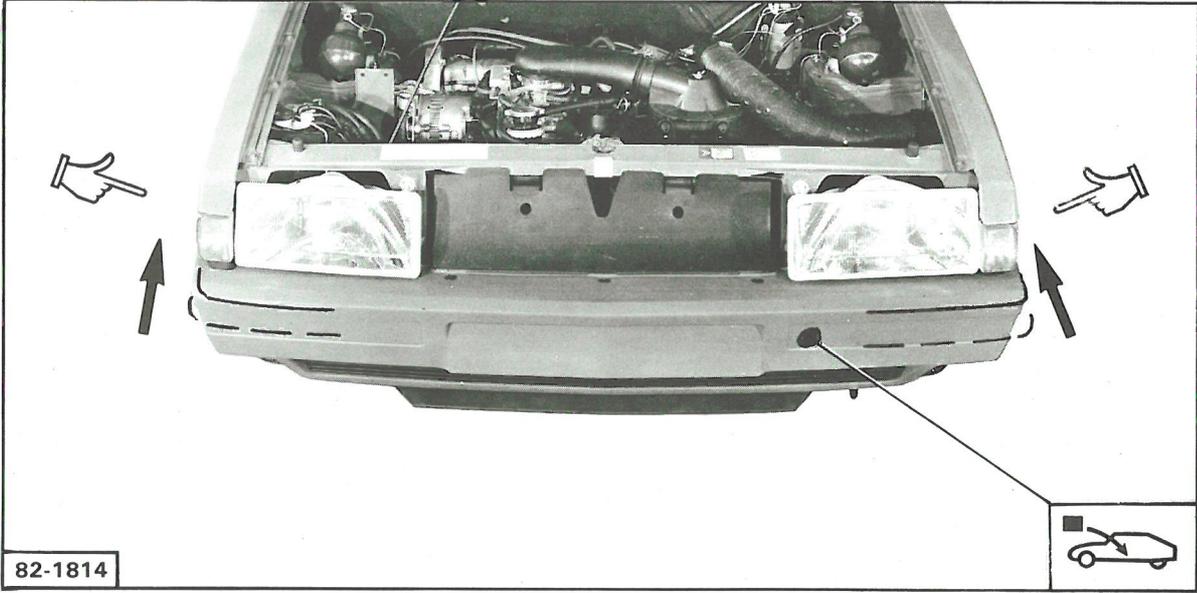


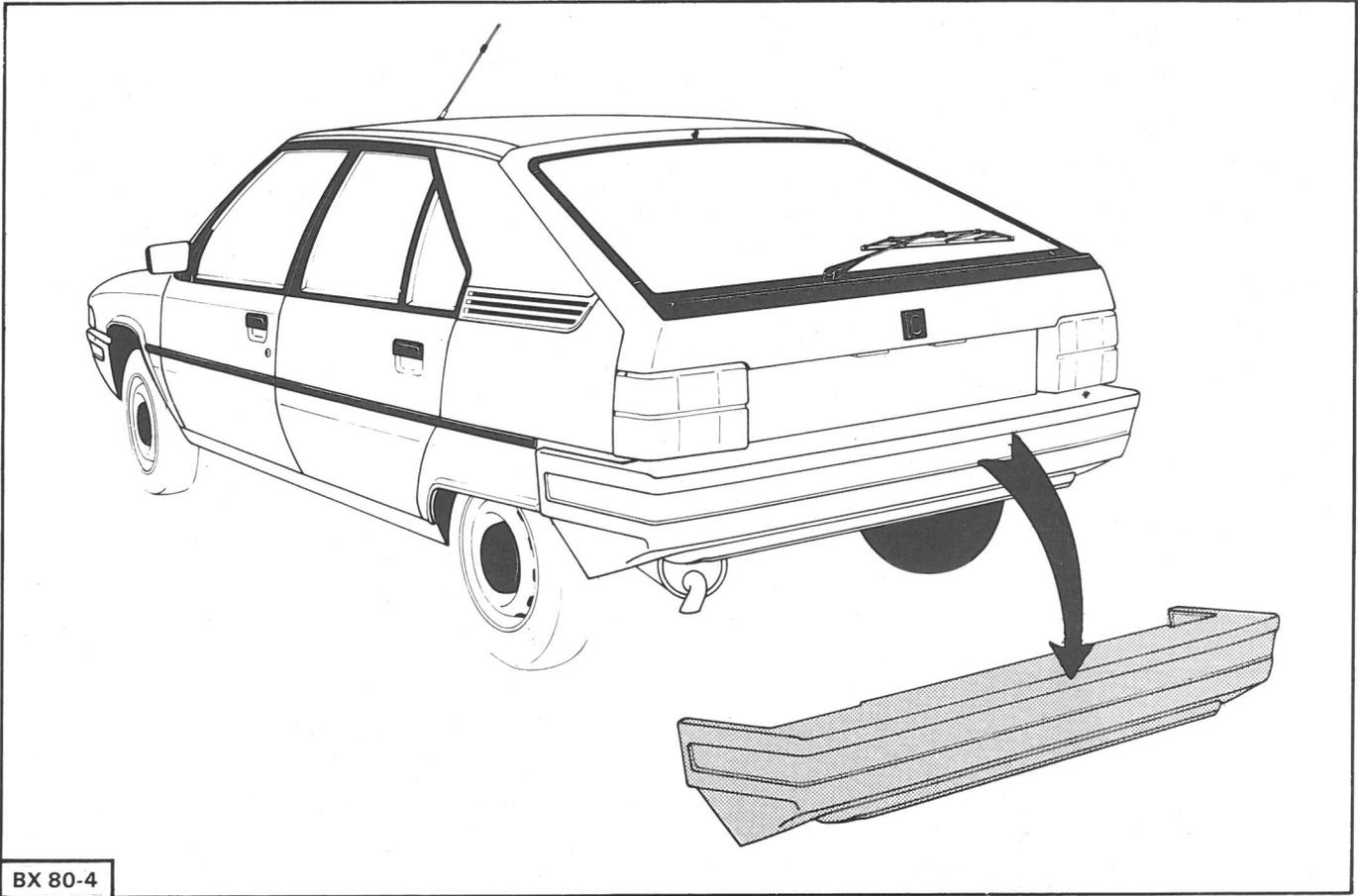
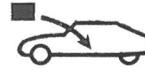


BX 80-3

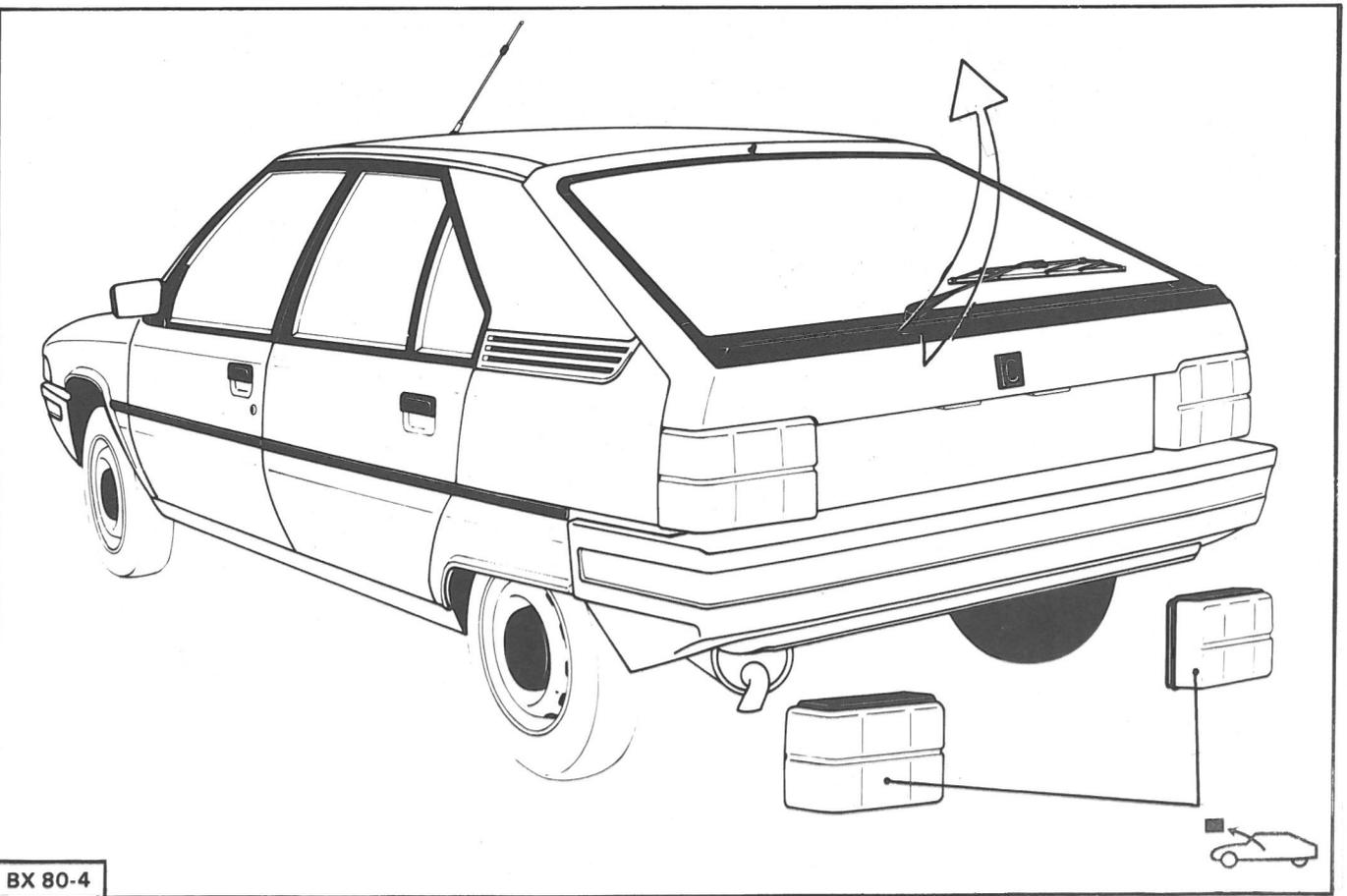




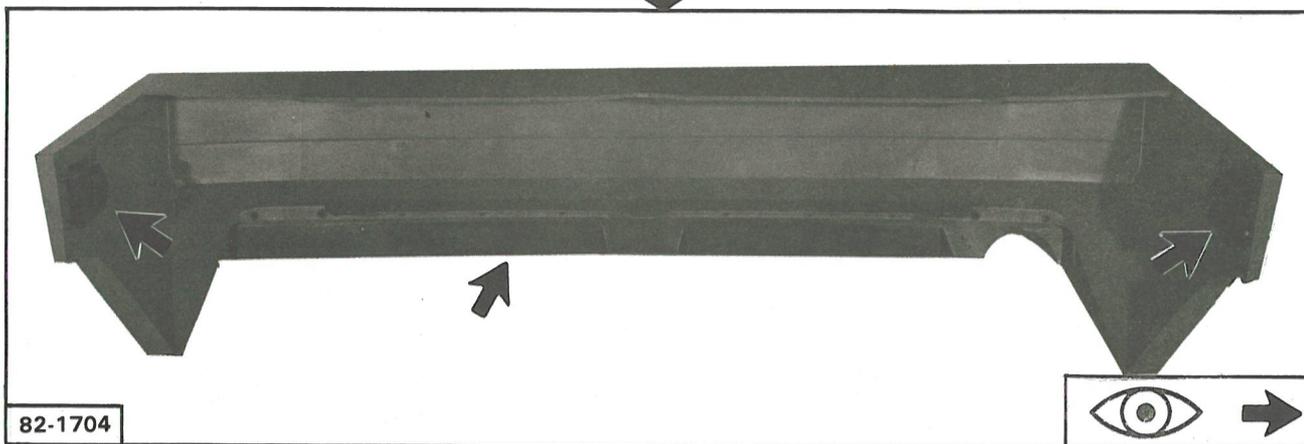
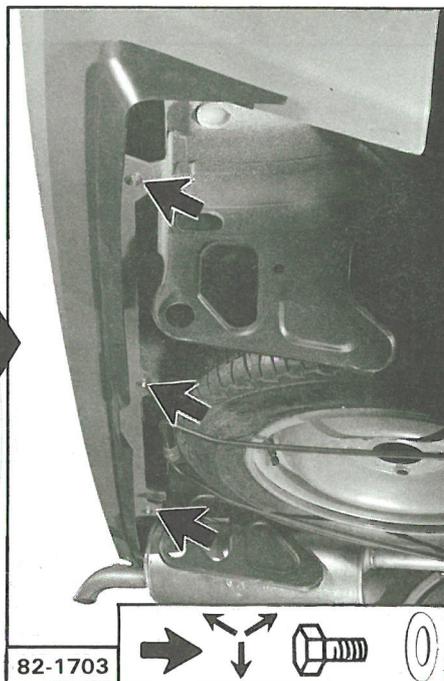
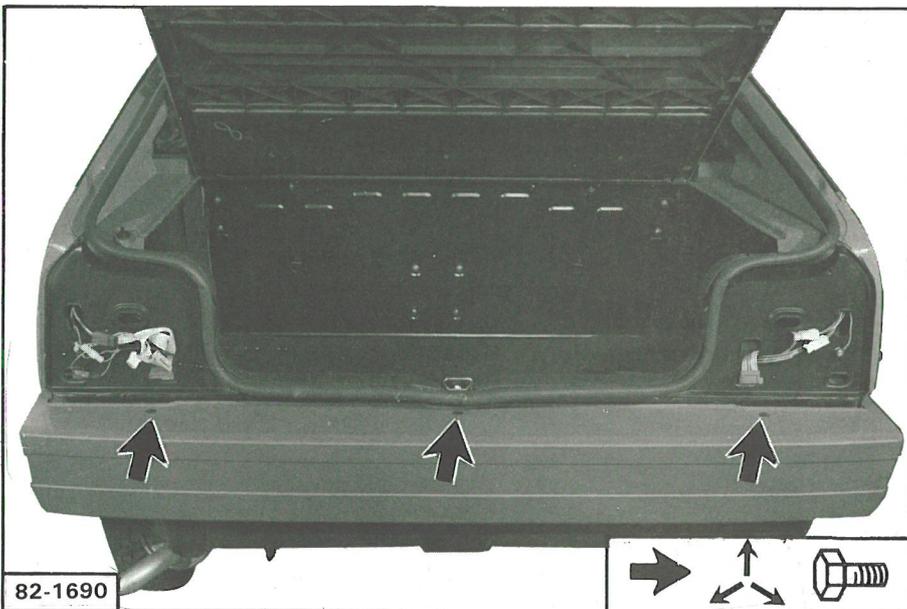


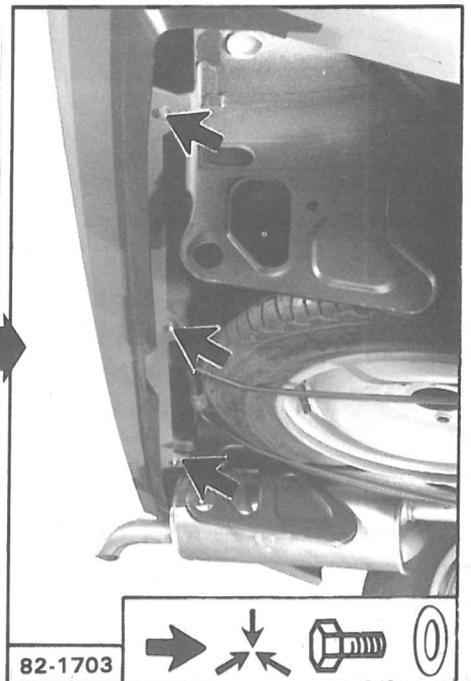
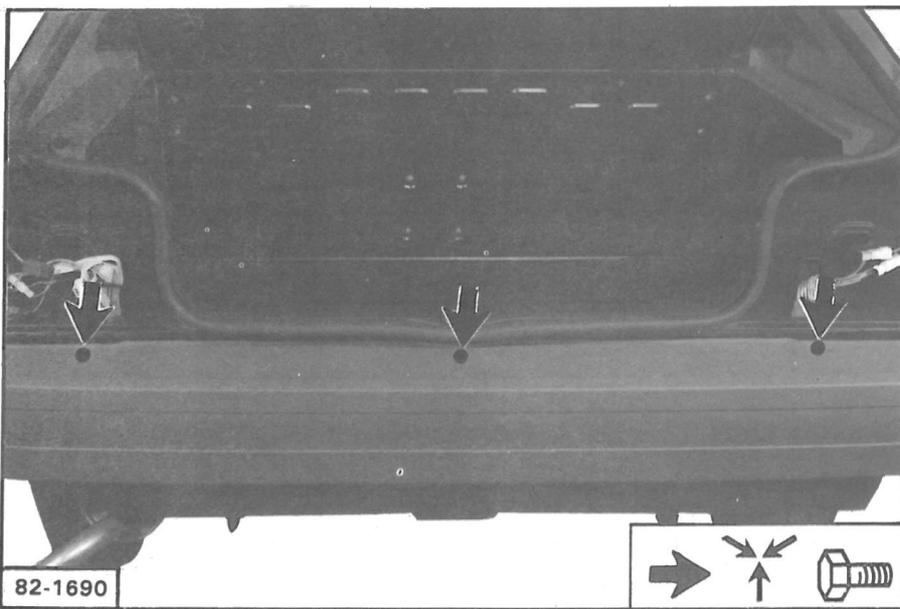
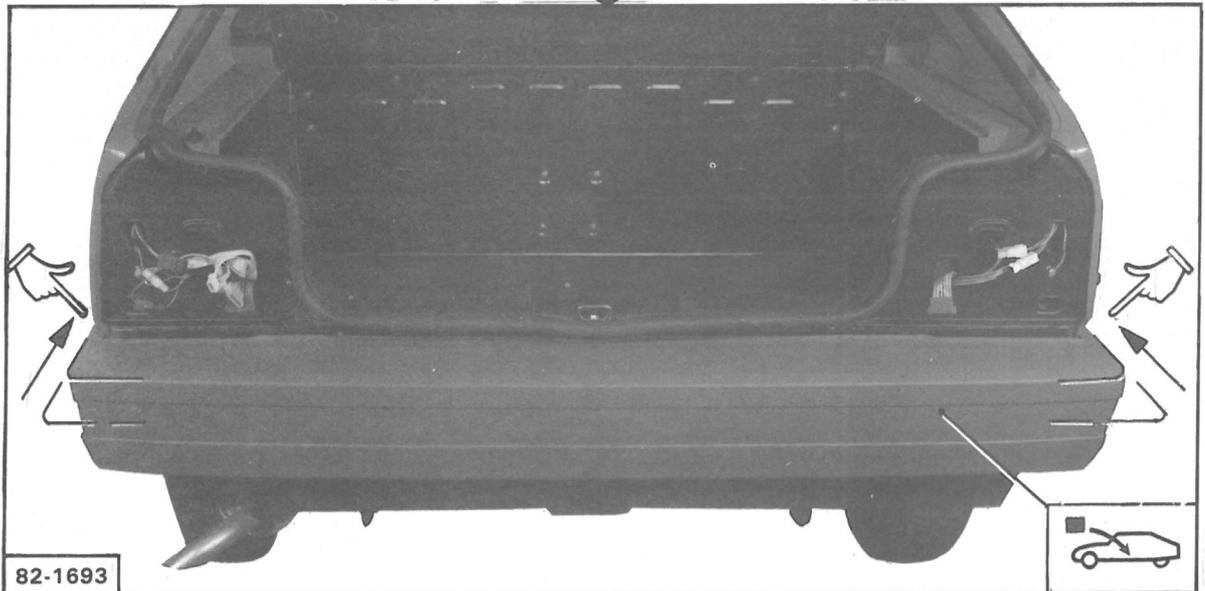
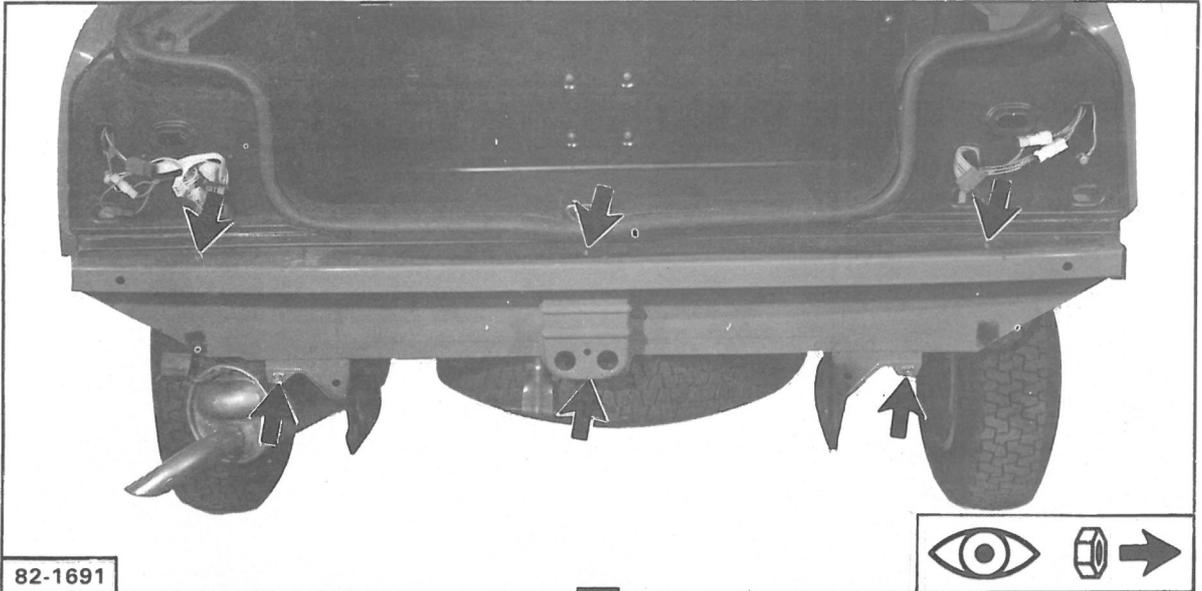


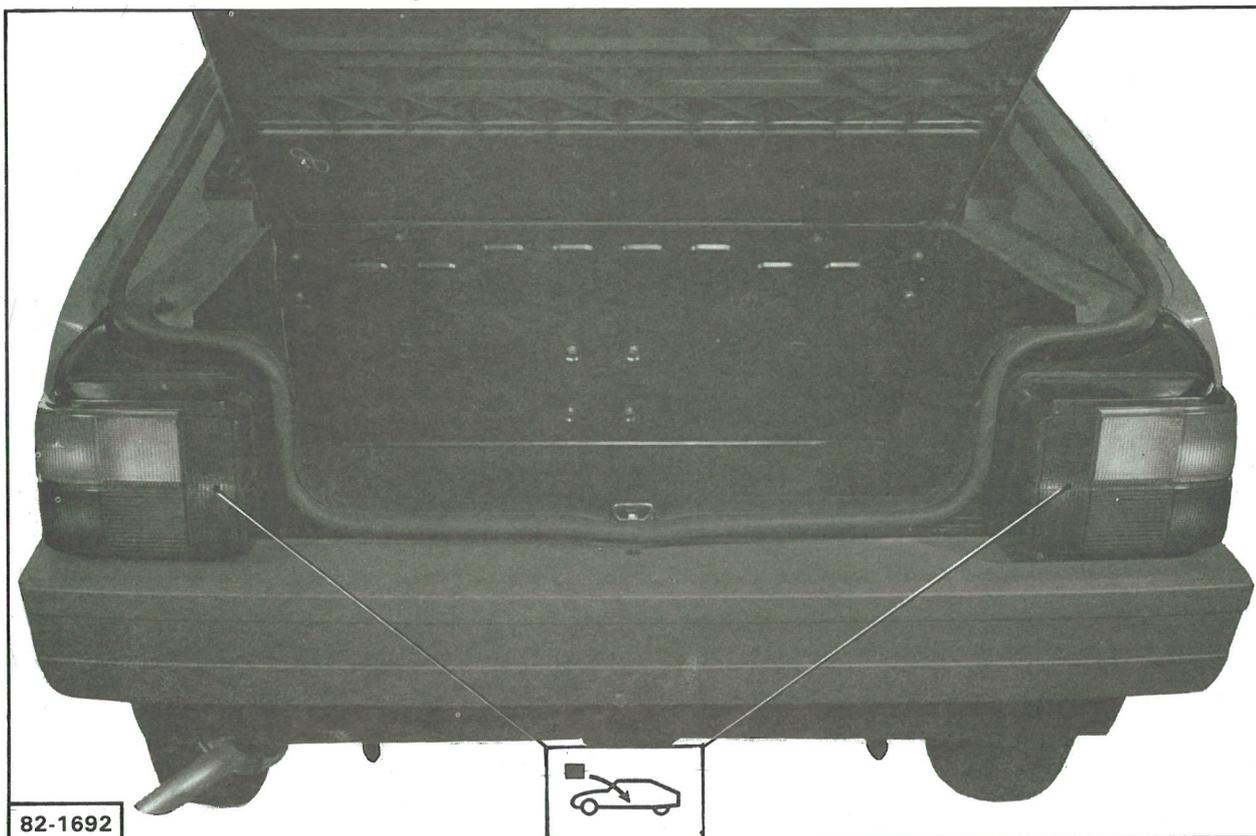
BX 80-4



BX 80-4



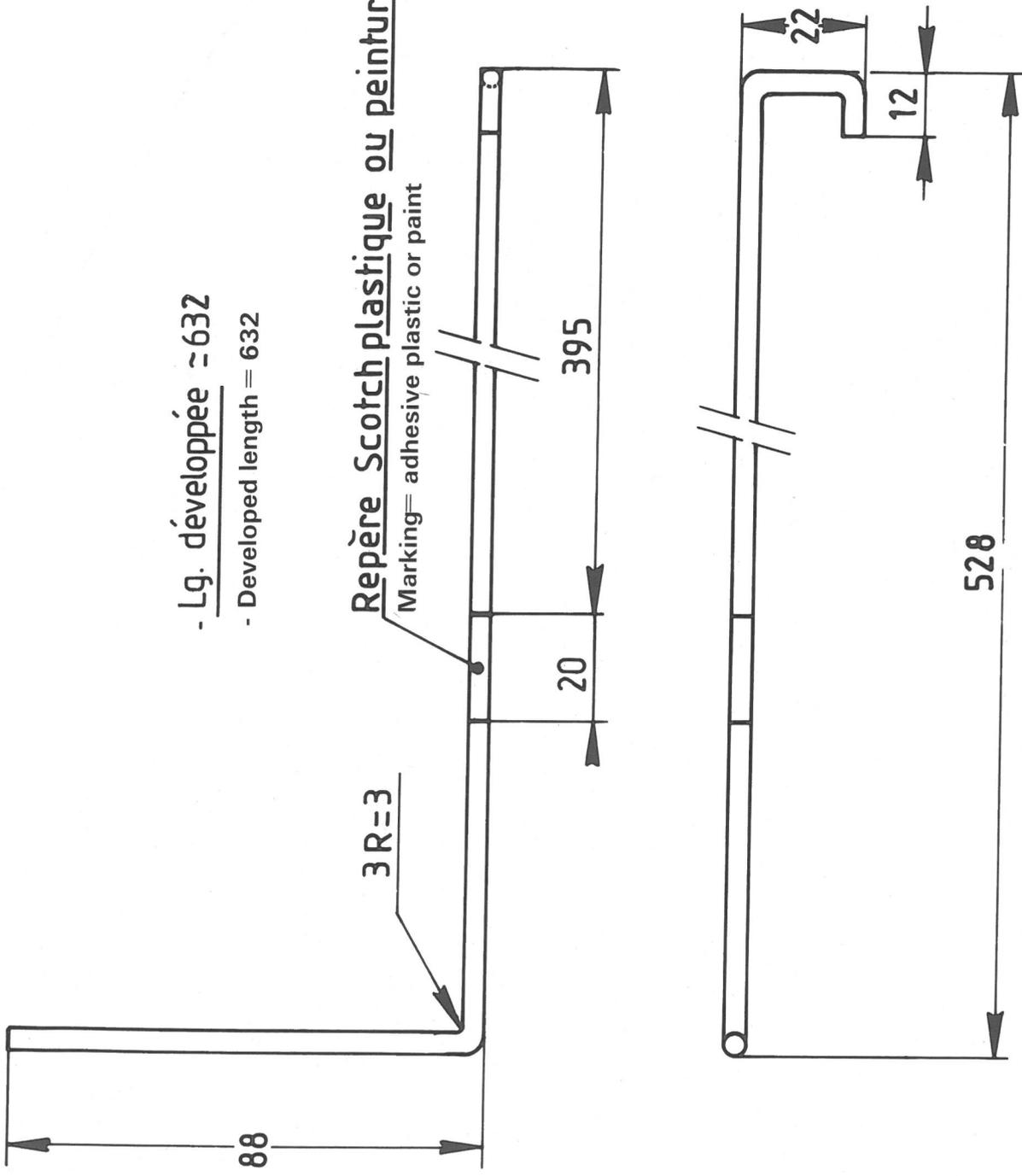




82-1692

- Lg. développée ≈ 632
- Developed length = 632

Repère Scotch plastique ou peinture
Marking = adhesive plastic or paint



Matériau = Etiré CC35 Ø4
Material = CC35 dia. 4 steel wire