



Techni
ENGINEERING SOLUTIONS

VOLVO FL D8K / D5K
RENAULT DISTRIBUTION D2.1 DT18 / DT15

CODE / CODICE: 0500.7492

COMPRESSOR / COMPRESSEUR / KOMPRESSOR
/ COMPRESSORE / COMPRESOR :

SELTEC TM13 TM15 TM16

QUE QP13 QP15 QP16

SANDEN SD-7

FITTING INSTRUCTIONS

EINBAUANLEITUNGEN

INSTRUCTIONS POUR LE MONTAGE

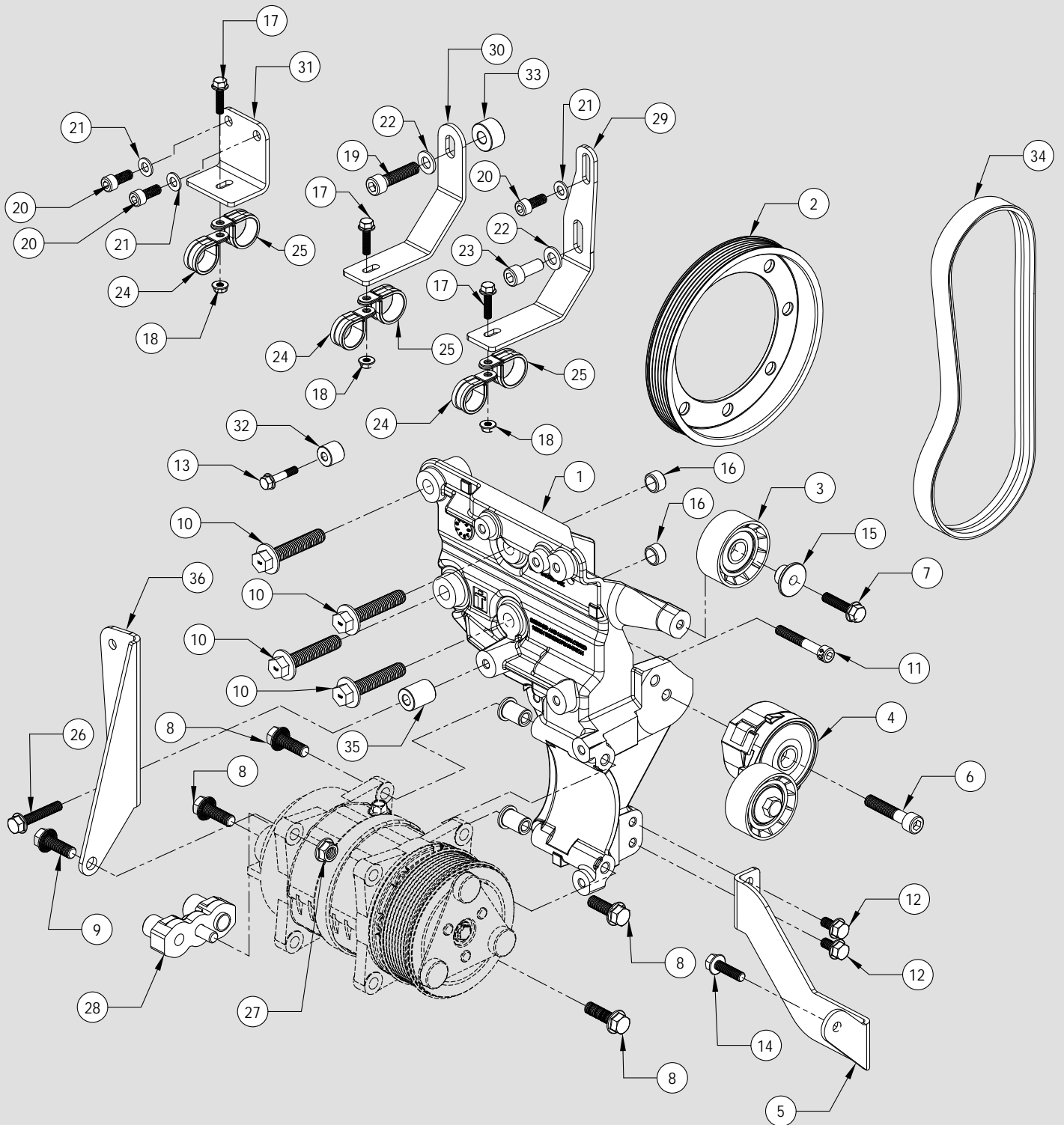
ISTRUZIONI DI MONTAGGIO

INSTRUCCIONES DE MONTAJE

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PARTS VIEW / VUE ÉCLATÉE / TEILEANSICHT / VISTA PARTA / IMÁGENES DE LAS PIEZAS



PARTS LIST / NOMENCLATURE / TEILELISTE / ELENCO DELLE PARTI / LISTA DE PIEZAS

ITEM	CODE / CODICE / KODE / CODIGO	DESCRIPTION / DESCRIZIONE / BESCHREIBUNG / DESCRIPCION	QTY.	COMMENTS
1	0441.5441	CMB Assy RVI D5K- D8K	1	
2	1701.5361	Crankshaft pulley - Ø180 RVI D5K -D8K	1	
3	1700.0341	Idle Pulley 60.2 X 25.5	1	
4	1705.0591	Automatic tensioner 6PK (47mm long)	1	
5	3020.6131	Support brace RVI D5K - D8K	1	
6	2705.5061	Socket cap screw M10 x 50 : 1.50 - 12.9	1	
7	2704.0481	Hex flange bolt Durlok - M8 x 35 : 1.25 - 12.9	1	
8	2705.0491	Hex flange bolt Durlok - M10 x 30 : 1.50 - 12.9	4	
9	2705.0291	Hex flange bolt Durlok - M10 x 40 : 1.50 - 12.9	1	
10	2706.5071	Hex flange bolt - M12 x 60: 1.75 - 10.9	4	
11	2704.5671	Hexagon socket head cap screw M8 x 55 : 1.25 - 10.9	1	
12	2704.1521	Hex flange bolt Durlok - M8 x 16 : 1.25 - 12.9	2	
13	2702.0511	Hex flange bolt M6 X 30 : 1.00	1	
14	2704.0091	Hex flange bolt Durlok - M8 x 30 : 1.25 - 12.9	1	
15	2803.5611	Spacer ID 8.3 OD 16.8 L 14.5	1	
16	2800.5581	Alignment dowel Ø17 L10 Ø7	2	
17	2702.0111	Hex flange bolt Durlok - M6 x 25 : 1.00 - 12.9	3	
18	2732.0041	Hexagon flange nut Durlok - M6 : 1.00	3	
19	2705.5121	Socket cap screw M10 x 40 : 1.50 - 12.9	1	
20	2704.5701	Socket cap screw M8 x 20 :1.25 - 12.9	3	
21	2808.0011	Washer M8 Flat DIN 125 - A 8.4	3	
22	2809.0011	Washer M10 Flat DIN 125 - A 10.5	2	
23	2705.5171	Hexagonal socket head cap screw M10 x 25 : 1.5	1	
24	2771.1031	P Clip 19mm	3	
25	2771.1041	P Clip 25mm	3	
26	2704.0161	Hex flange bolt Durlok - M8 x 45 : 1.25 - 12.9	1	
27	2735.0071	Durlok Hexagon Flange Nut - M10 : 1.50	1	
28	0425.0511	Manifold Compressor H-3/4 x 7/8	1	
29	3020.6181	Front Hose Support D5K & D8K	1	
30	3020.6171	Hose support bracket MID (D8K only)	1	
31	3020.6191	Rear Hose Support RVI D5K & D8K	1	
32	2803.5851	Spacer Ø18 L15 Ø7	1	
33	2803.5871	Spacer Ø25 L15mm Ø10.5	1	
34	0820.7071	Belt - Poly Groove 6PK 1203	1	
35	2803.5931	Spacer Ø20 L25 Ø9	1	
36	3020.6261	Support Plate RVI D5K- D8K - Non AC	1	

**COMPATIBLE COMPRESSORS / COMPRESSEURS RECOMMANDÉS / EMPFOHLENE KOMPRESSOREN
RACCOMANDATO COMPRESSORI / RECOMENDADAS COMPRESORES**

SELTEC	TM-13 HS	TM-15 HS	TM-16 HS
Comp No.	0381.0392	0381.0062	0381.0772
Seltec No.	435-54123	435-55123	435-56123
Mounting	Ear	Ear	Ear
Rotor	8PV	8PV	8PV
GL	46.55mm	46.55mm	46.55mm
Armature	3E	3E	3E
Diameter	123	123	123
Voltage	24	24	24
Orientation	H	H	H
Fitting	3/4 x 7/8	3/4 x 7/8	3/4 x 7/8
Manifold	Bolt	Bolt	Bolt

DELPHI	-	-	-
Comp No.	-	-	-
Delphi No.	-	-	-
Mounting	-	-	-
Rotor	-	-	-
GL	-	-	-
Armature	-	-	-
Diameter	-	-	-
Voltage	-	-	-
Orientation	-	-	-
Fitting	-	-	-
Manifold	-	-	-

QUE	QP13-HS	QP15-HS	QP16-HS
Comp No.	0391.0392	0391.0062	0391.0772
Que No.	QP13-1460	QP15-1526	QP16-1352
Mounting	Ear	Ear	Ear
Rotor	8PV	8PV	8PV
GL	46.55mm	46.55mm	46.55mm
Armature	3E	3E	3E
Diameter	123	123	123
Voltage	24	24	24
Orientation	H	H	H
Fitting	3/4 x 7/8	3/4 x 7/8	3/4 x 7/8
Manifold	Bolt	Bolt	Bolt

SANDEN	SD-7	-	-
Comp No.	0370.4866	-	-
Sanden No.	-	-	-
Mounting	EAR	-	-
Rotor	8PV	-	-
GL	SL	-	-
Armature	46.55	-	-
Diameter	119mm	-	-
Voltage	24V	-	-
Orientation	N/A	-	-
Fitting	N/A	-	-
Manifold	Bolt	-	-

STANDARD FASTENER TORQUE VALUES

In the absence of specific torque values detailed in this fitting instruction manual, the following chart can be used as a guide to the maximum safe torque for specific size and grade of fastener.

COUPLES DE SERRAGE DES FIXATIONS STANDARDS

Si des chiffres de serrage au couple particuliers ne sont pas indiqués dans cette notice de montage, se référer au tableau suivant qui servira de guide pour le couple de sécurité maximum correspondant à une taille et un grade spécifiques de fixation.

ANZIEHMOMENTE FÜR STANDARDBEFESTIGUNGSMITTEL





Falls in dieser Einbauanleitung keine speziellen Anziehmomente angegeben sind, kann die folgende Tabelle als Richtlinie für das maximale sichere Anziehmoment für eine spezifische Größe oder Qualität von Befestigungsmitteln dienen.

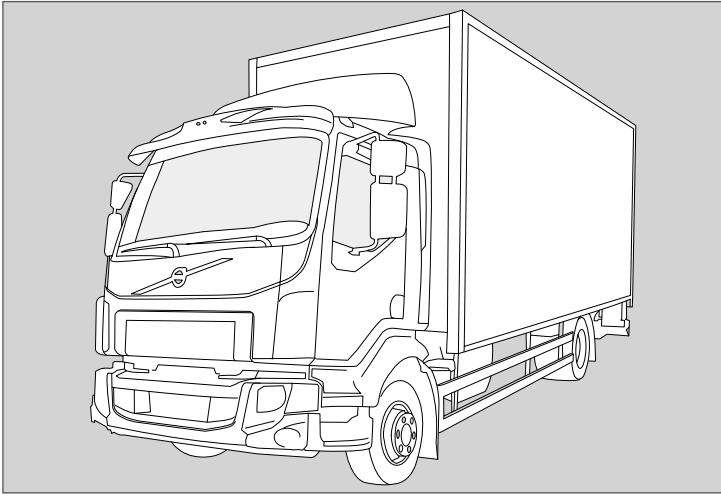
VALORI STANDARD DI SERRAGGIO PER DISPOSITIVI DI FISSAGGIO

In assenza di valori specifici di coppia nel presente manuale di istruzioni, si può utilizzare la seguente tabella come guida per conoscere la coppia massima sicura in base a dimensioni e grado del dispositivo di fissaggio.

VALORES ESTÁNDAR DE LOS PARES DE APRIETE Y FIJACIÓN

En ausencia de valores para los pares de apriete específicos detallados en este manual de instrucciones de montaje, se puede utilizar la siguiente tabla como guía para consultar el máximo par de torsión seguro para un tamaño concreto y su grado de fijación.

STRENGTH								
	Max Torque		Max Torque		Max Torque		Max Torque	
Dia / Pitch	lb.ft	Nm	lb.ft	Nm	lb.ft	Nm	lb.ft	Nm
M5 x 0.80	2	3	4.5	6	6.5	9	7.5	10
M6 x 1.00	4	5.5	7.5	10	11	15	13	18
M8 x 1.25	10	13	18	25	26	35	33	45
M10 x 1.25	20	27	39	53	57	78	66	90
M10 x 1.50	18	25	37	50	55	73	63	86
M12 x 1.75	33	45	63	85	97	130	111	150
M14 x 2.00	55	75	103	140	151	205	177	240
M16 x 2.00	85	115	159	215	232	315	273	370



VEHICLE DETAILS

Manufacturer	Volvo / Renault
Model	FL / Distribution CAB 2.1M
Engine CC	7.7 / 5.1 Litre
Engine Details	D8K/DTi8 : 250 (184kW)/280(206kW) D5K/DTi5 : 210 (154kW)/240(177kW)
Year	2014>
Chassis Nos.	N/A
LHD	YES
RHD	YES
PAS	YES
A/C	YES
Voltage	24v

KIT DETAILS

Kit Part Number	0500.7492
Description	Speed Reduction Kit
Compressor RPM	3,165 @ Max engine power output
Fitting Time	120 Minutes
Suction Fitting	Straight
Discharge Fitting	Straight
Belt Type	6PK 1203
Belt Part Number	0820.7071

Note: Does not fit Distribution CAB 2.3M OR FE.

Not compatible with pneumatic front suspension. Vehicles with robotic gearboxes require option 18106 (Renault) or BBM-PK12 (Volvo).

FOREWORD

The purpose of this manual is to facilitate the installation of a direct drive compressor. The information given is merely instructive, should any complications arise contact the Technical department. The manufacturer's warranty does not cover any problems caused by defective installation or alterations made unless authorised. The manufacturer shall not be responsible for any injury, damage or loss caused directly or indirectly as a result of using this manual or the information contained within it.

1 SAFETY MEASURES:

Before fitting the Compressor adapter drive kit, ensure the following for damage:

- a Inner and outer trim and body work
- b Engine idle pace
- c Check all the vehicle functions

Check list:

- a Ensure that the right kit has been selected
- b Before installing, check that all the correct pieces are present; also ensure that there are no missing or broken pieces
- c When fitting, make sure the vehicle is properly protected against damage.

Installation apparatus

- a Calibrated torque wrench
- b Hand service tools
- c Protective covers and shields

2 PRECAUTIONS

- a Detach the battery negative lead.
- b Torque all bolts where stated using a calibrated torque wrench.
- c Take extreme care with moving parts.
- d Remove the vehicle's ignition key and keep it with you.
- e Wear safeguards and make sure that liquid refrigerant never touches your skin

Caution: Measures must be followed accurately to steer clear of the possibility of damage to individuals

Warning: This calls awareness to actions which must be pursued to avoid damage to the components.

NB: This calls awareness to make the job easier or gives useful information.

N.B Prior to commencing work, please examine the instructions with care. The alphabetical symbols on the diagram relate to written instructions, numerical symbols relate to the parts listing.

REMOVAL OF PARTS

AC Only

1. Remove bolts securing Turbo pipe (A) and position as shown. Cover open ends. - Fig 1

Note: this operation is necessary to improve access to the fastener (B) securing the AC pipes.

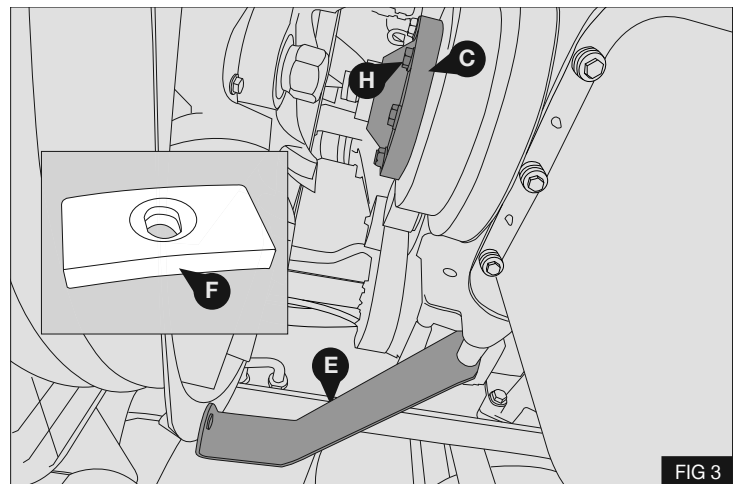
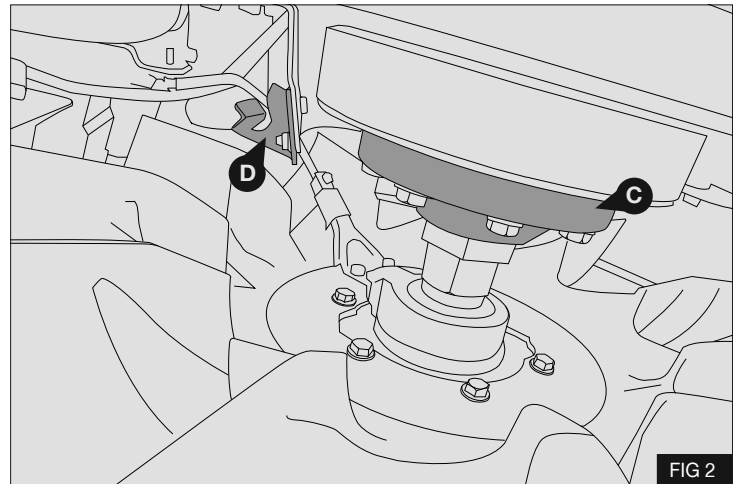
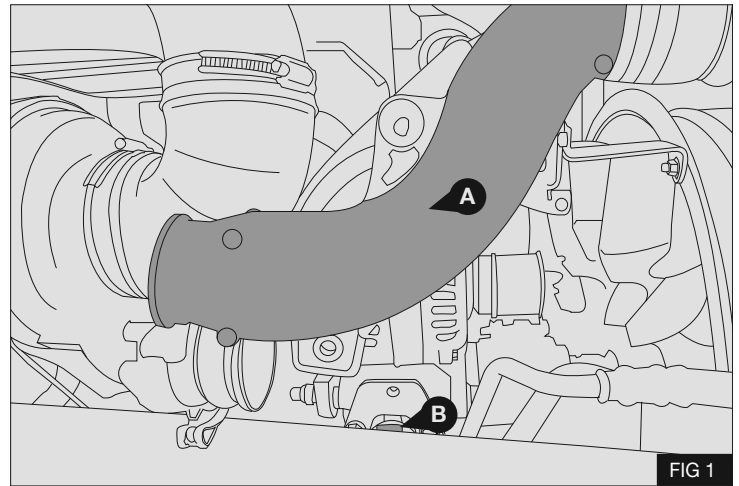
2. Remove and discard fastener (B) securing the air conditioning pipes. - Fig 1

All vehicles

1. Separate viscous fan from hub (C) (LH Thread). Remove and retain nut securing the loom support (D). Carefully place fan in radiator cowl. - Fig 2

Note: It is not necessary to disconnect the fan hub wiring

2. Remove and discard fan stator support (E), retain cowl plate (F) and M8 nut (G) (not shown). - Fig 3
3. Remove and retain bolts (H) and fan hub (C). - Fig 3



4. Release tension on drive belt and lock automatic belt tensioner \textcircled{J} using a suitable pin. - Fig 4
5. Mark direction of rotation on drive belt \textcircled{K} , remove belt and retain for re-use. - Fig 4
6. Remove and retain fasteners $\textcircled{L1}$ securing AC compressor \textcircled{L} or Fasteners $\textcircled{M1}$ securing Foolish pulley \textcircled{M} . - Figs 4 & 5
7. Disconnect compressor wiring and secure compressor in a suitable location.

Note: It is not necessary to discharge the air-conditioning system

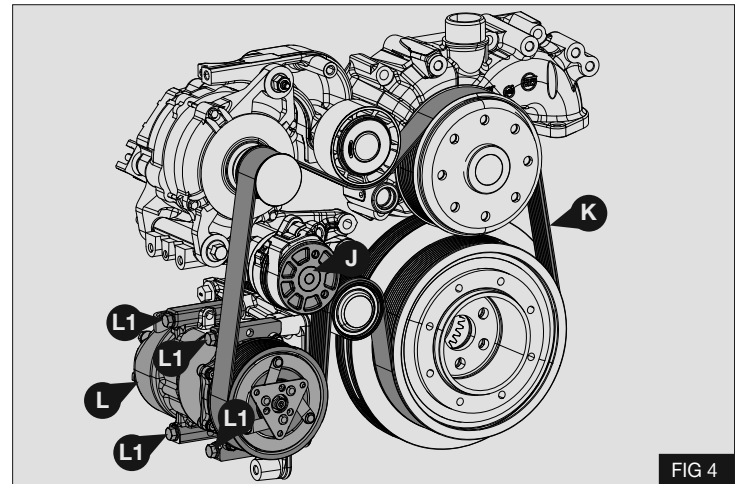


FIG 4

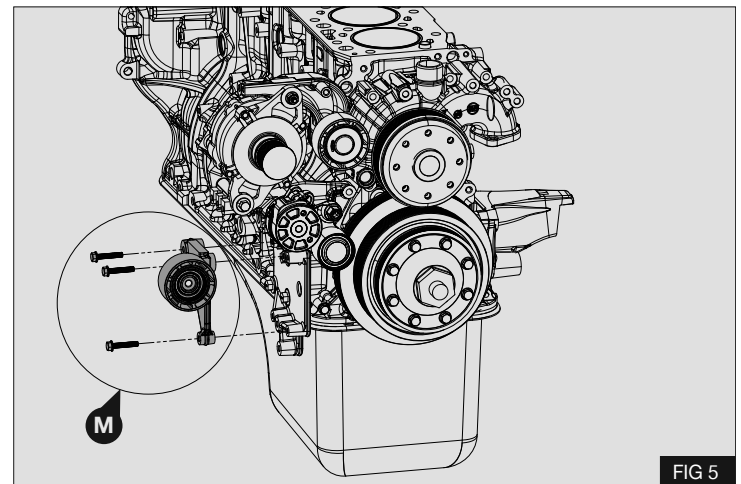


FIG 5

8. Remove and discard bracket \textcircled{N} and its fasteners. Remove and discard fastener from point \textcircled{O} . Clean excess paint from point \textcircled{O} . - Fig 6

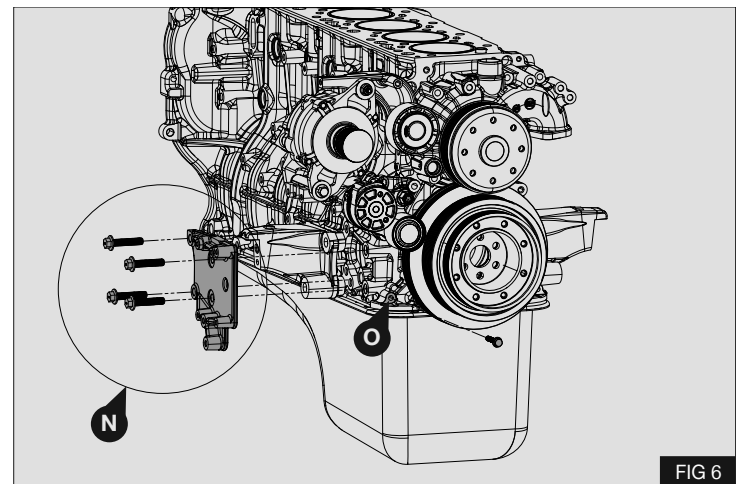


FIG 6

INSTALLATION

1. Fit crankshaft pulley $\textcircled{2}$ with original fasteners \textcircled{H} and fan hub \textcircled{C} - Fig 7

Torque bolts \textcircled{H} to 65Nm / 48lbft

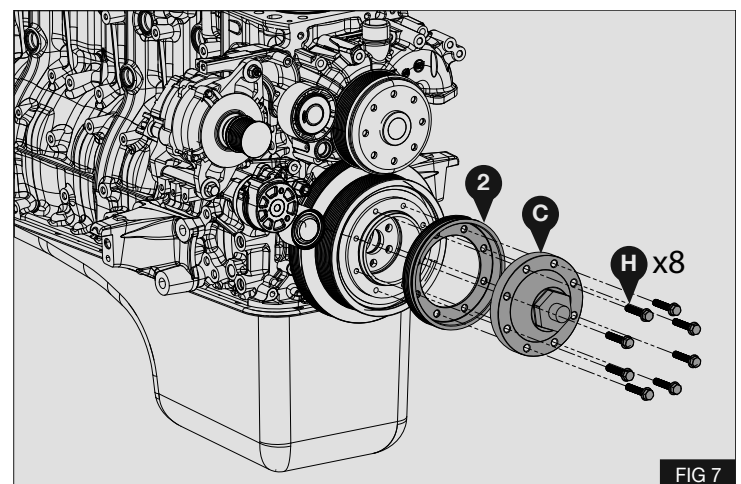
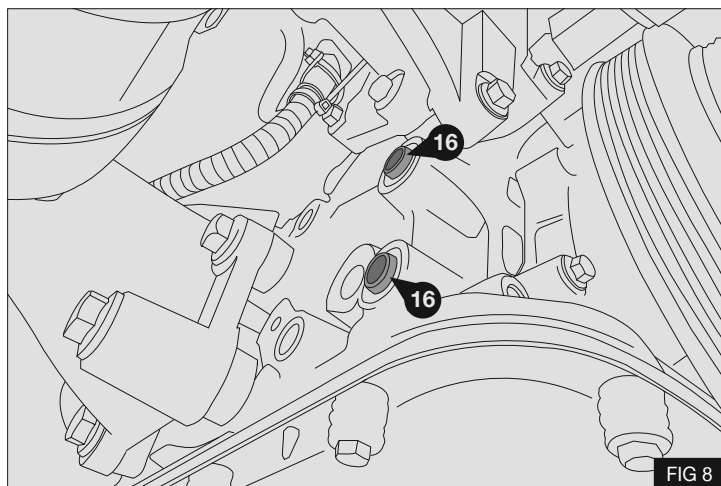


FIG 7

2. Insert alignment dowels (16) into positions on engine. - Fig 8

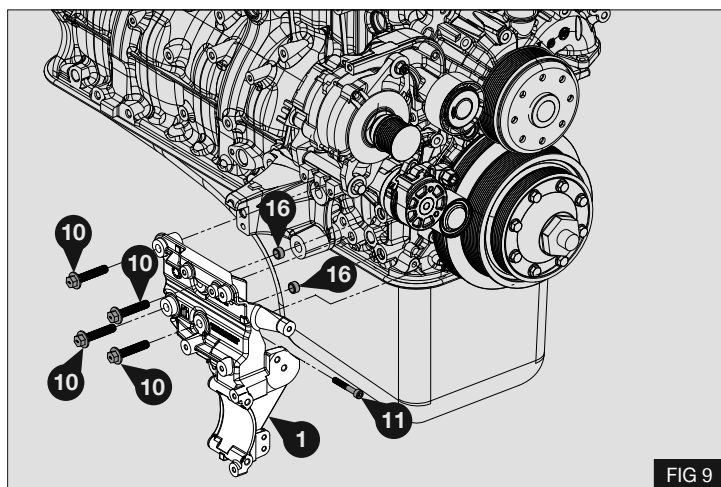


3. Fit mount bracket (1) with alignment dowels (16) using M12x60 bolts (10) and M8x55 Cap head screw (11) - Fig 9
4. Hand tighten all bolts then torque bolts in the following sequence:

Torque bolts (10) to 110Nm / 81Lbft

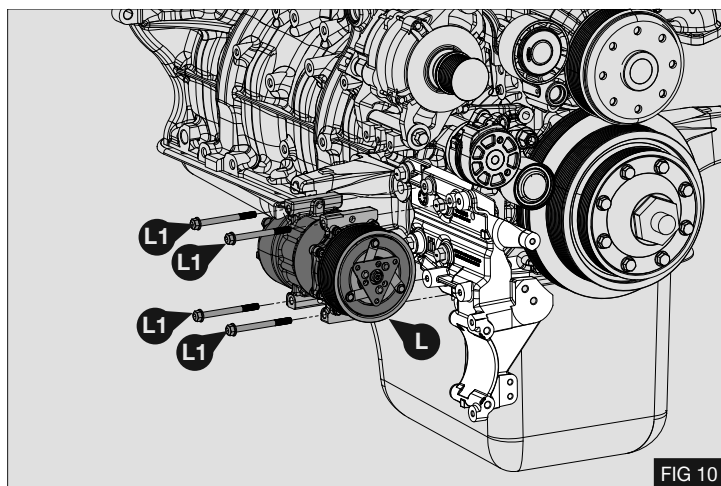
Torque bolt (11) to 29Nm / 21.4Lbft

Note: Ensure alignment dowels (16) are correctly inserted

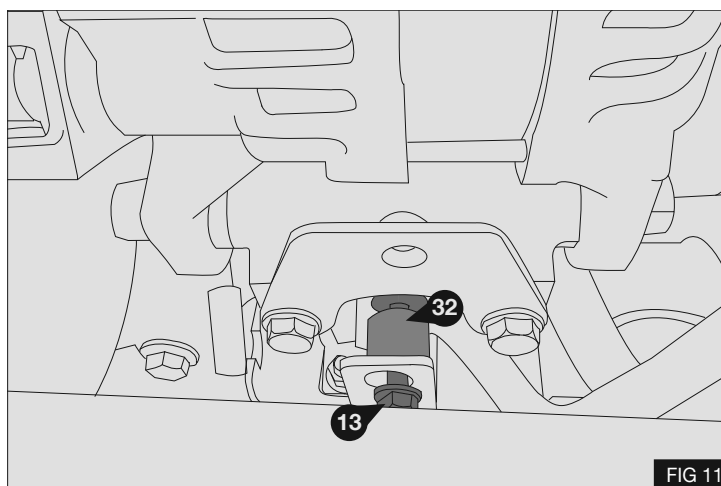


AC only

5. Re- fit air conditioning compressor (L) using the original fasteners (L1). Do not fully install the fasteners until the next procedure is completed. - Fig 10



6. Install spacer (32) with M6x30 bolt (13). - Fig 11
7. Tighten compressor bolts (L1) to 25Nm / 18Lbft
8. Tighten M6 Bolt (13) to 15Nm / 11Lbft



Non-AC only

1. Refit the foolish pulley assembly (M) using 2x original fasteners (M1). - Fig 12

Note: Only install 2x (M1) as shown

2. Torque bolts (M1) to 25Nm / 18Lbft

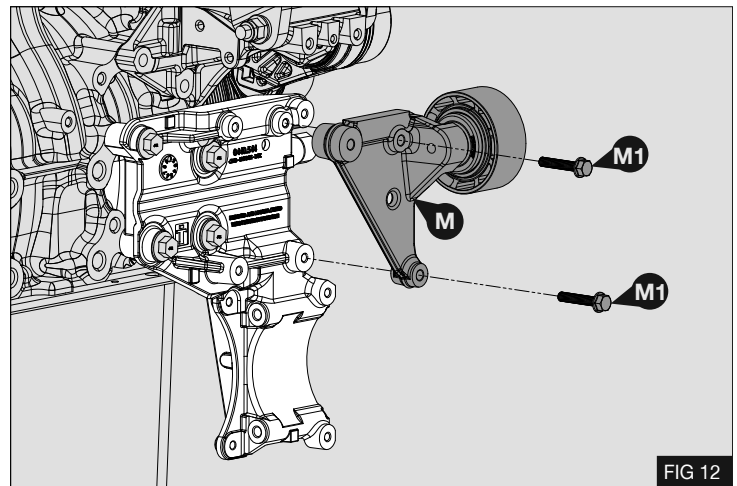


FIG 12

All models

1. Refit the original drive belt (K) and release automatic tensioner - Fig 13

- A. Crank pulley
- B. Automatic tensioner
- C. AC Compressor / Foolish pulley
- D. Alternator
- E. Idle pulley
- F. Water pump

2. Fit Idle pulley (3) to bracket (1) with spacer (15) and M8x35 flange bolt (7). - Fig 14
3. Fit automatic tensioner (4) using M10x50 Cap head bolt (6). - Fig 14
4. Torque bolt (7) to 35Nm / 26Lbft
5. Torque bolt (6) to 45Nm / 32Lbft
6. Fit compressor to bracket (1) using 4 x M10x30 bolts (8). - Fig 15
7. Torque bolts (8) to 58Nm / 42.8Lbft

Note: Torque the bolts at the front of the compressor first

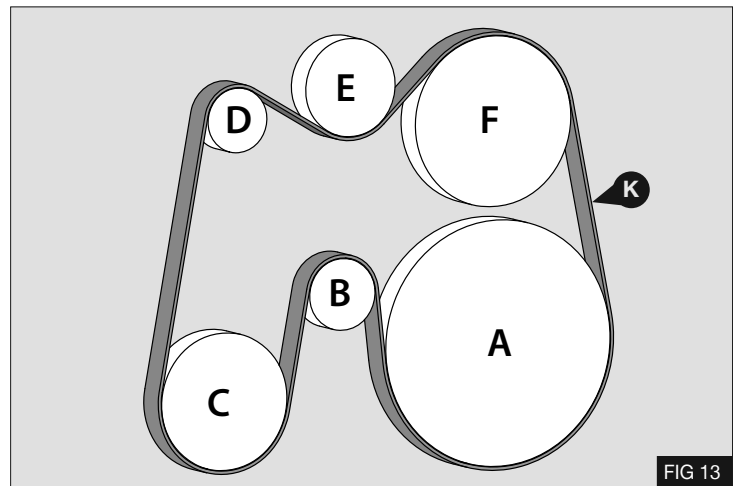


FIG 13

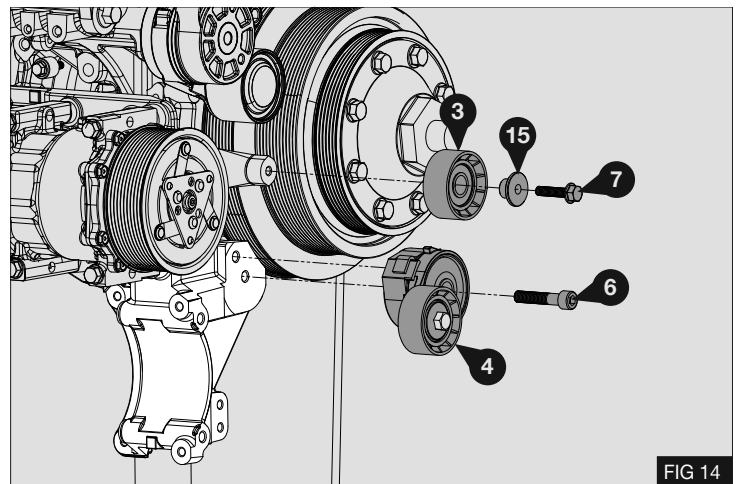


FIG 14

Non AC only

1. Fit compressor to bracket (1) using 4 x M10x30 bolts (8) - Fig 15
2. Torque bolts (8) to 58Nm / 42.8Lbft

Note: Torque the bolts at the front of the compressor first

3. Fit Support plate (36) with spacer (35) to the mount bracket (1) secure using M8x45 bolt (26) and remaining original bolt (M1) through the foolish pulley mount (M) and into the bracket (1)
4. Secure to compressor ear using M10x40 bolt (9) and M10 nut (27) - Fig 15

Torque bolts (26) to 35Nm / 26Lbft

Torque bolts (M1) to 25Nm / 18Lbft

Torque bolts (9) to 58Nm / 42.8Lbft

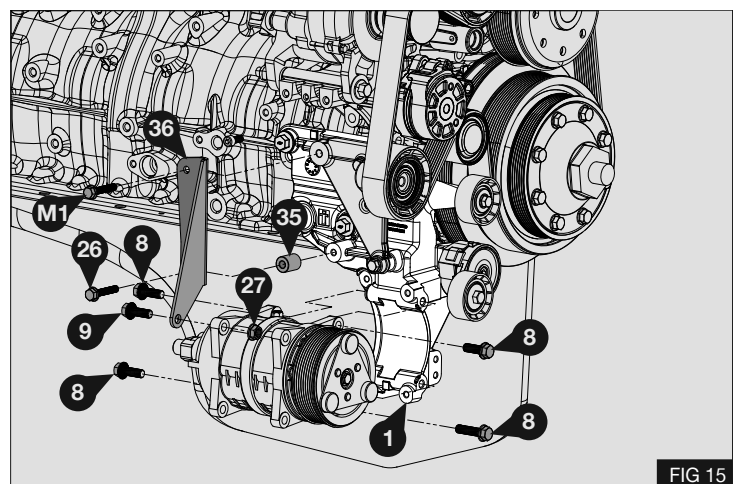


FIG 15

All Models

1. Fit compressor belt (34) into the correct grooves. - Fig 16 / 17

- A. Compressor
- B. Idle pulley
- C. Crank pulley
- D. Automatic tensioner

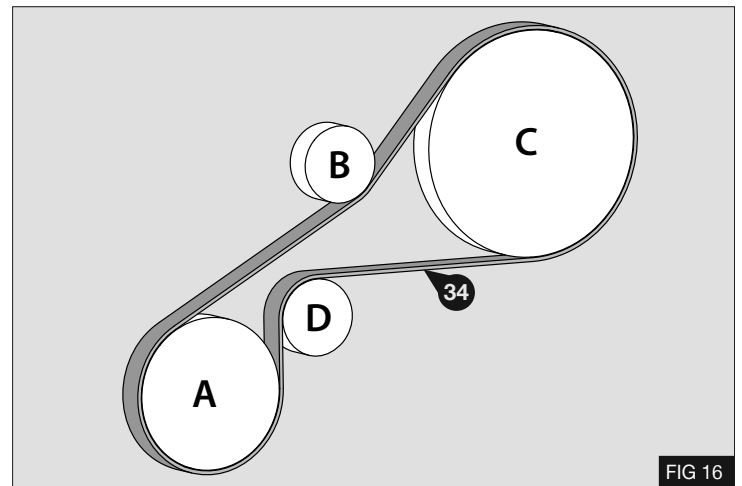


FIG 16

2. TM/QUE: Belt is Installed at the front of the compressor - Fig 17

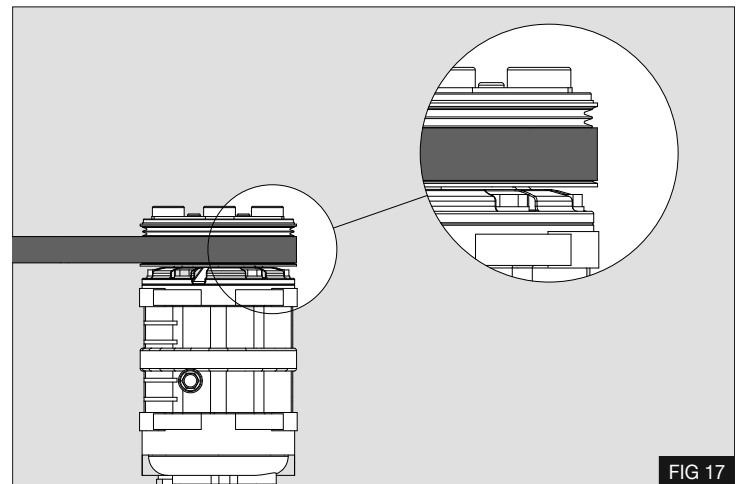


FIG 17

3. Re-fit viscus fan to hub and tighten (LH Thread), re-fit fan loom support (D) (see Fig 2)
4. Fit stator support bracket (5) using cowl plate (F) and nut (G) with M8 x 16 bolts (12) and M8x30 bolt (14) - Fig 18
5. Torque bolts (12), (14) to 29Nm / 21.4Lbft

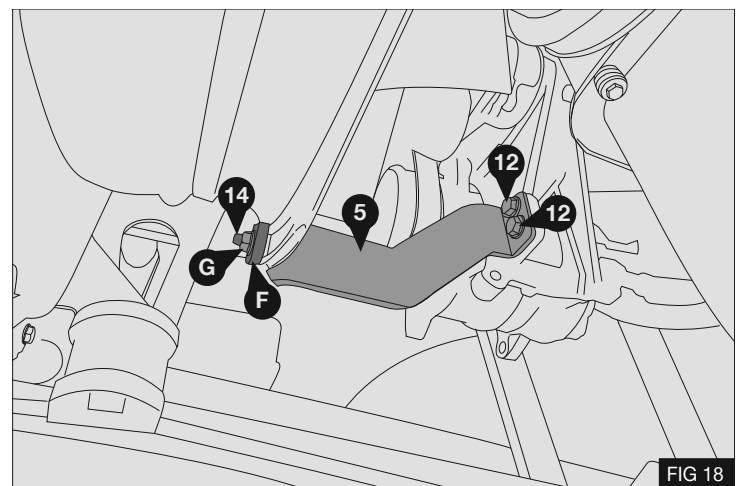


FIG 18

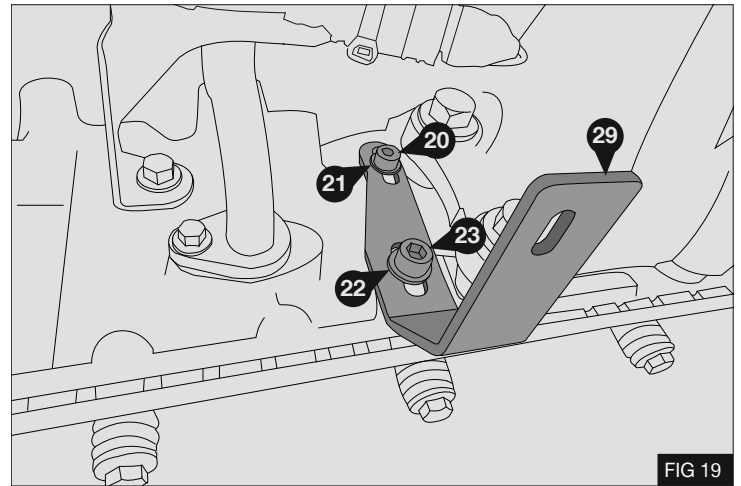
HOSE ROUTING

All Models

1. Install Hose support (29) using M8x20 Cap head bolt (20) with M8 flat washer (21) and M10x25 Cap head (23) with M10 flat washer (22) - Fig 19

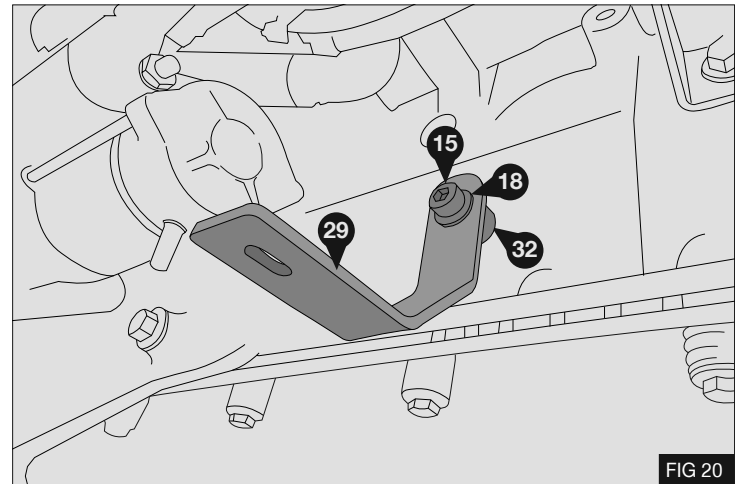
Torque bolts (23), to 45Nm / 32Lbft

Torque bolts (20), to 35Nm / 26Lbft



6 Cylinders only

1. Install Hose support (30) with Spacer (33) secure using M10x40 Cap head bolt (19) and M10 flat washer (22) - Fig 20

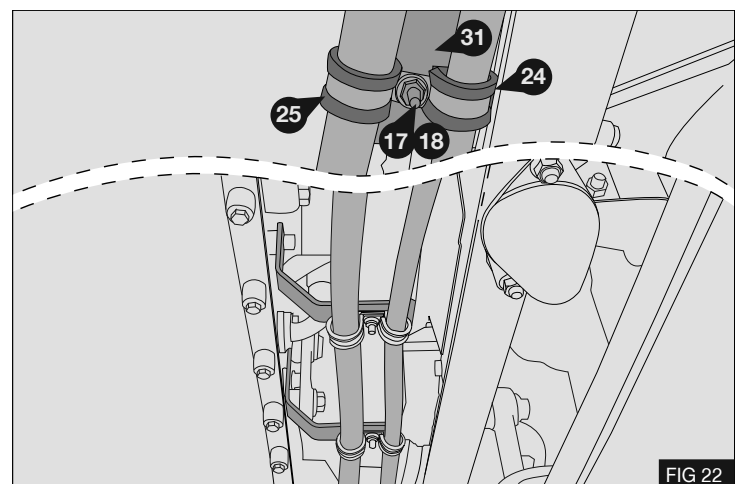


All Models

1. Install Hose support (31) using 2x M8x20 Cap head bolts (20) with M8 flat washers (21) - Fig 21



2. Secure hoses to support brackets using P clips (24) and (25) with M6 x 25 bolts (17) and M6 nuts (18) - Fig 22



WIRING

RH Drive

1. Remove trim (N) from the passenger side compartment to improve access for the following instructions. - Fig 23

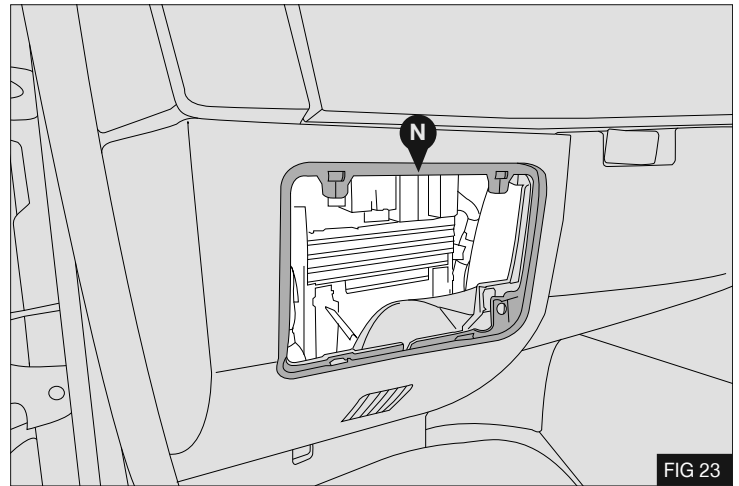


FIG 23

ELECTRICAL CONNECTIONS

Positive power supply

High Current

1. The Power supply should be taken from the second main fuse (200A), located in the battery box.
2. The earth should be taken from the chassis. For earth points, please refer to section "Chassis earthing points" page 25 of the body builders manual

Low Current

1. The power supply should be taken from the body builder connectors **XCBB1** (for use in cab)
2. The earth should be taken from the body builders' connector **XCBB1**
3. Make connections in socket **XCBB1** within the Electrical Junction Box (EJB). - Figs 24 & 25

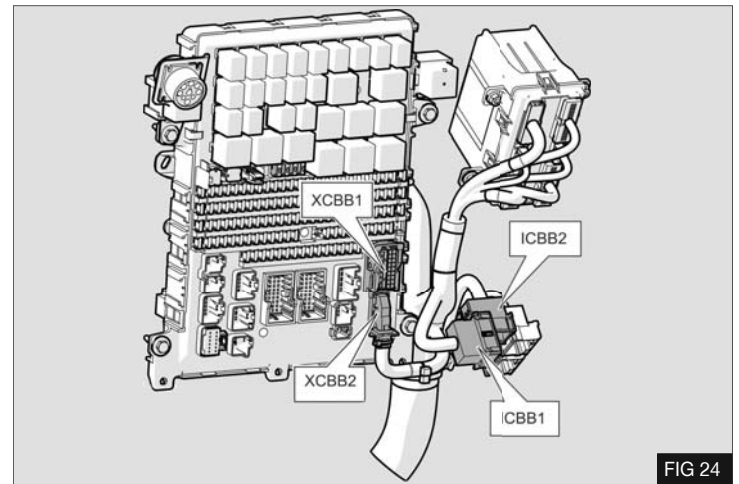


FIG 24

XCBB1 Body Builder Connector

Position/ Pin	Function	Input/ Output	MAX Current	Fuse Associated	Wire
19	Ground	Power Supply	Low current	NA	1
20	Ground	Power Supply	Low current	NA	1
23	Main 24v +	Power Supply	15A	F65 (15A)	208
25	Ignition 24v +	Power Supply	15A	F39 (15A)	2234

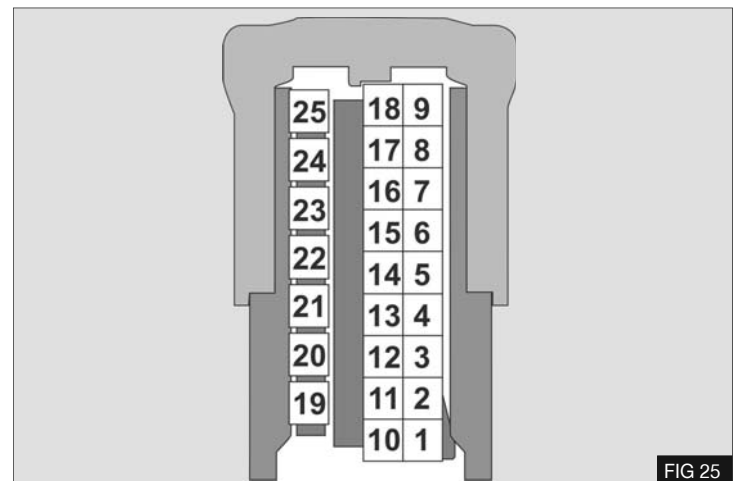


FIG 25

For vehicles with robotized gearbox

1. Locate connector ICBB1. - Fig 24
2. To be able use an extra pulley or a rear engine PTO (with a torque limitation) together with an ATO1056, ATO8006 or AT2412E gearbox, it is necessary to connect a wire between the body builder unit and the truck. This is used to communicate that torque is being consumed. The wire, from the body builder unit is connected to body builder connector ICBB1 pin 13. The information will be transferred to the gearbox ECU. T9091516 The input "Torque Consumption" is on connector ICBB1.13 (wire 8135). This input must be activated by connecting +24 V to pin ICBB1.13 whenever the body builder equipment consumes torque while the vehicle is moving. An example of this is a compressor (refrigerator application). - Fig 27

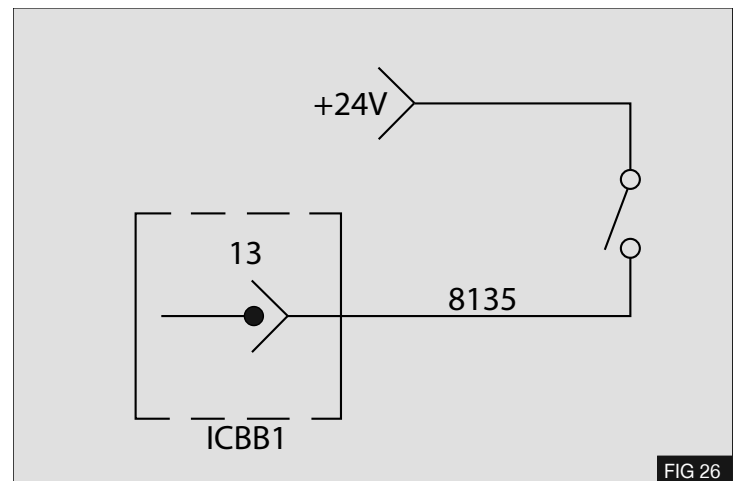


FIG 26

POST INSTALLATION

1. Before starting the engine check all the installed parts and ensure that the belt is installed correctly. Run the unit for at least ten minutes, then check the whole mounting assembly and previously removed parts. Attach the supplied warning label on to a suitable location.
2. Run engine with refrigerant compressor engaged for 10 minutes, Allow drive belts to cool and re-tension as necessary (See table).

(EN)

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(DE)

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