



Techni
ENGINEERING SOLUTIONS

VOLVO FL D8K / D5K
RENAULT DISTRIBUTION D2.1 DTi8 / DTi5

CODE / CODICE: 0500.7502

COMPRESSOR / COMPRESSEUR / KOMPRESSOR
/ COMPRESSORE / COMPRESOR :

SELTEC TM21

QUE QP21

FITTING INSTRUCTIONS

EINBAUANLEITUNGEN

INSTRUCTIONS POUR LE MONTAGE

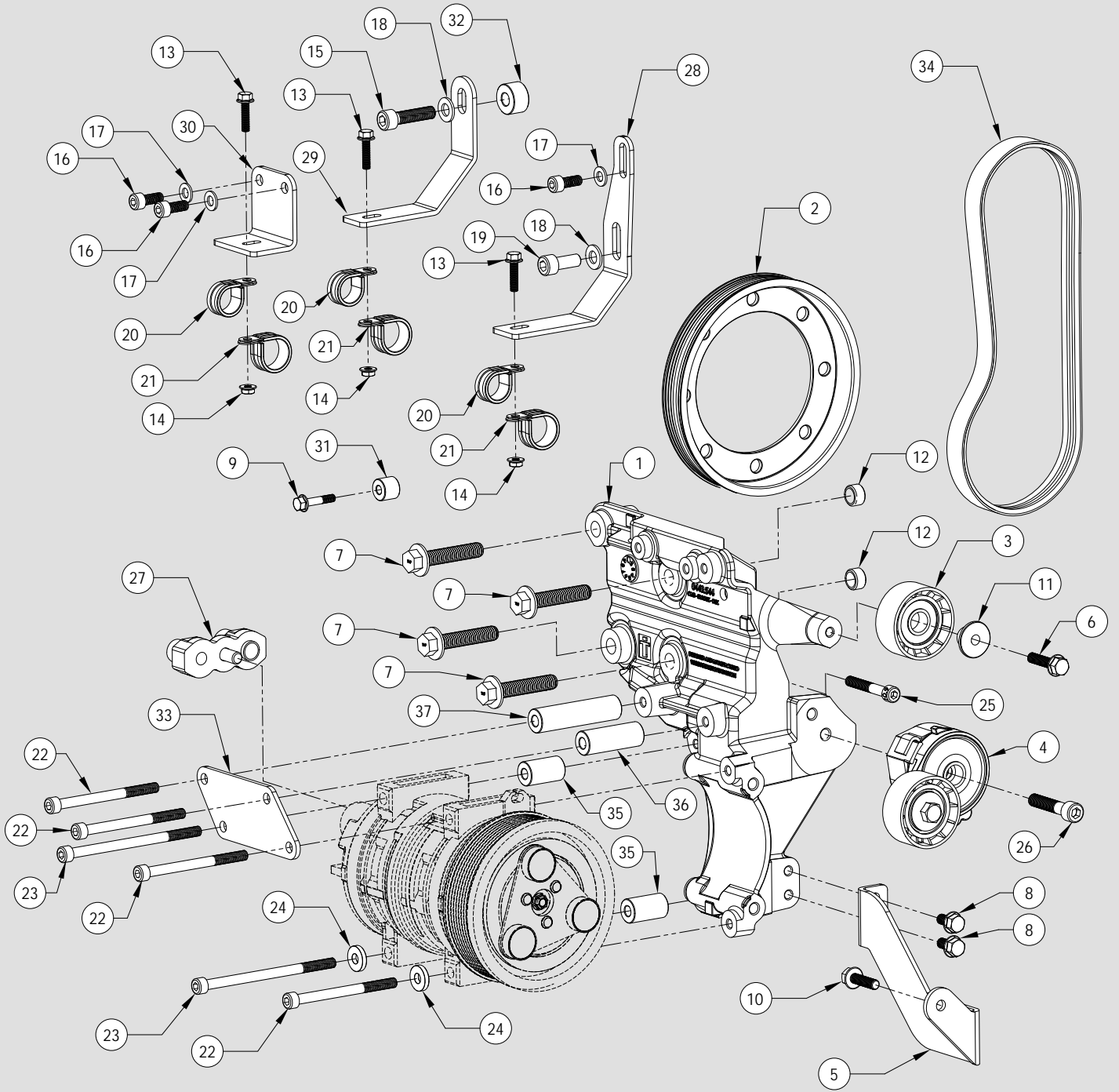
ISTRUZIONI DI MONTAGGIO

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 | 2704.0481 | Hex flange bolt Durlok - M8 x 35 : 1.25 - 12.9 | 1 | |
| 7 | 2706.5071 | Hex flange bolt - M12 x 60: 1.75 - 10.9 | 4 | |
| 8 | 2704.1521 | Hex flange bolt Durlok - M8 x 16 : 1.25 - 12.9 | 2 | |
| 9 | 2702.051 | Hex flange bolt M6 X 30 : 1.00 | 1 | |
| 10 | 2704.0091 | Hex flange bolt Durlok - M8 x 30 : 1.25 - 12.9 | 1 | |
| 11 | 2803.5611 | Spacer ID 8.3 OD 16.8 L 14.5 | 1 | |
| 12 | 2800.5581 | Alignment dowel Ø17 L10 Ø7 | 2 | |
| 13 | 2702.0111 | Hex flange bolt Durlok - M6 x 25 : 1.00 - 12.9 | 3 | |
| 14 | 2732.0041 | Hexagon flange nut Durlok - M6 : 1.00 | 3 | |
| 15 | 2705.5121 | Socket cap screw M10 x 40 : 1.50 - 12.9 | 1 | |
| 16 | 2704.5701 | Socket cap screw M8 x 20 :1.25 - 12.9 | 3 | |
| 17 | 2808.0011 | Washer M8 Flat DIN 125 - A 8.4 | 3 | |
| 18 | 2809.0011 | Washer M10 Flat DIN 125 - A 10.5 | 2 | |
| 19 | 2705.5171 | Hexagonal socket head cap screw M10 x 25 : 1.5 | 1 | |
| 20 | 2771.1031 | P Clip 19mm | 3 | |
| 21 | 2771.1041 | P Clip 25mm | 3 | |
| 22 | 2704.5611 | Hex socket head cap screw M8 x 100 : 1.25 - 12.9 | 4 | |
| 23 | 2704.5421 | Hex socket head cap screw M8 x 130 : 1.25 - 12.9 | 2 | |
| 24 | 2808.5001 | Washer M8 Flat DIN 7349 OD21 x ID8.4 x L4 | 2 | |
| 25 | 2704.5671 | Hexagon socket head cap screw M8 x 55 : 1.25 - 10.9 | 1 | |
| 26 | 2705.5061 | Socket cap screw M10 x 50 : 1.50 - 12.9 | 1 | |
| 27 | 0425.0511 | Manifold Compressor H-3/4 x 7/8 | 1 | |
| 28 | 3020.6181 | Front Hose Support D5K & D8K | 1 | |
| 29 | 3020.6171 | Hose support bracket MID (D8K only) | 1 | |
| 30 | 3020.6191 | Rear Hose Support RVI D5K & D8K | 1 | |
| 31 | 2803.5851 | Spacer Ø18 L15 Ø7 | 1 | |
| 32 | 2803.5871 | Spacer Ø25 L15mm Ø10.5 | 1 | |
| 33 | 3020.6121 | Support plate | 1 | |
| 34 | 0820.2241 | Belt - Poly Groove 6PK 1250 | 1 | |
| 35 | 2803.5861 | Spacer Ø20 L34mm Ø 8.5 | 2 | |
| 36 | 2803.5911 | Spacer Ø20 L55 Ø9 | 1 | |
| 37 | 2803.5921 | Spacer Ø20 L80 Ø9 | 1 | |

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

| SELTEC | - | - | TM-21 HD |
|-------------|---|---|-----------|
| Comp No. | - | - | 0381.0632 |
| Seltec No. | - | - | - |
| Mounting | - | - | Direct |
| Rotor | - | - | 8PV |
| GL 4th peak | - | - | 51.16mm |
| Armature | - | - | 3E |
| Diameter | - | - | 141 |
| Voltage | - | - | 24 |
| Orientation | - | - | H |
| Fitting | - | - | 3/4 x 7/8 |
| Manifold | - | - | Bolt |

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

| QUE | - | - | QP21-HD |
|-------------|---|---|-----------|
| Comp No. | - | - | 0391.0632 |
| Que No. | - | - | QP21-1563 |
| Mounting | - | - | Direct |
| Rotor | - | - | 8PV |
| GL 4th peak | - | - | 51.16mm |
| Armature | - | - | 3E |
| Diameter | - | - | 141 |
| Voltage | - | - | 24 |
| Orientation | - | - | H |
| Fitting | - | - | 3/4 x 7/8 |
| Manifold | - | - | Bolt |

| SANDEN | - | - | - |
|-------------|---|---|---|
| Comp No. | - | - | - |
| Sanden No. | - | - | - |
| Mounting | - | - | - |
| Rotor | - | - | - |
| GL | - | - | - |
| Armature | - | - | - |
| Diameter | - | - | - |
| Voltage | - | - | - |
| Orientation | - | - | - |
| Fitting | - | - | - |
| Manifold | - | - | - |

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.

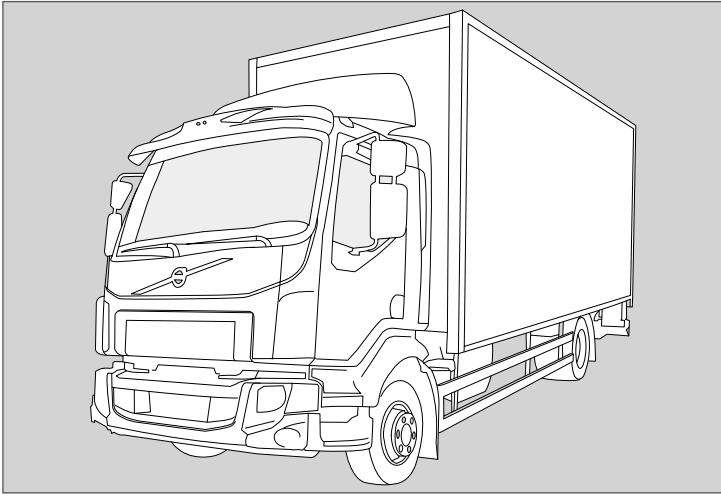
VALORI STANDARD DI SERRAGGIO PER DISPOSITIVI DI FISSAGGIO

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 | 0500.7502 |
| Description | Speed Reduction Kit |
| Compressor RPM | 2,842 @ Max engine power output |
| Fitting Time | 120 Minutes |
| Suction Fitting | Straight |
| Discharge Fitting | Straight |
| Belt Type | 6PK 1205 |
| 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.

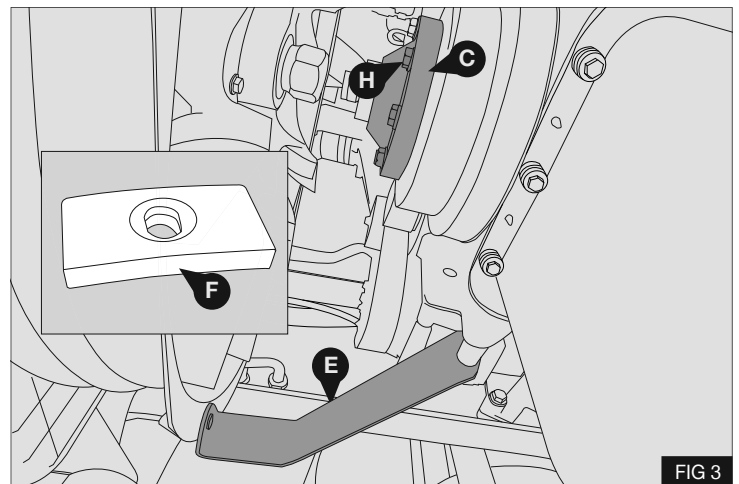
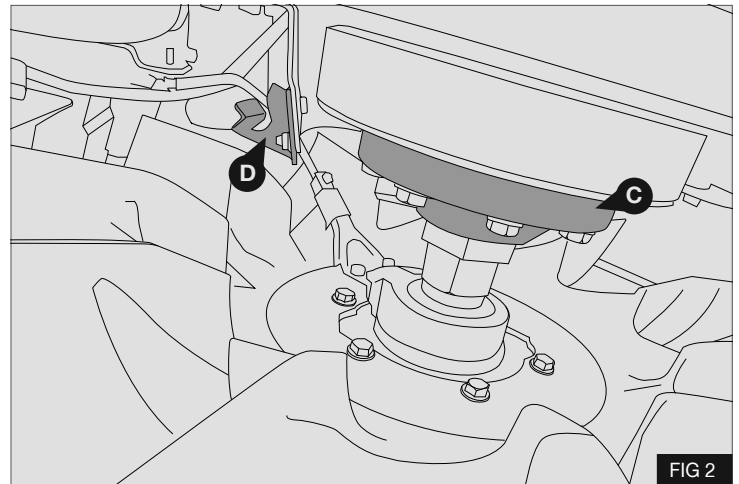
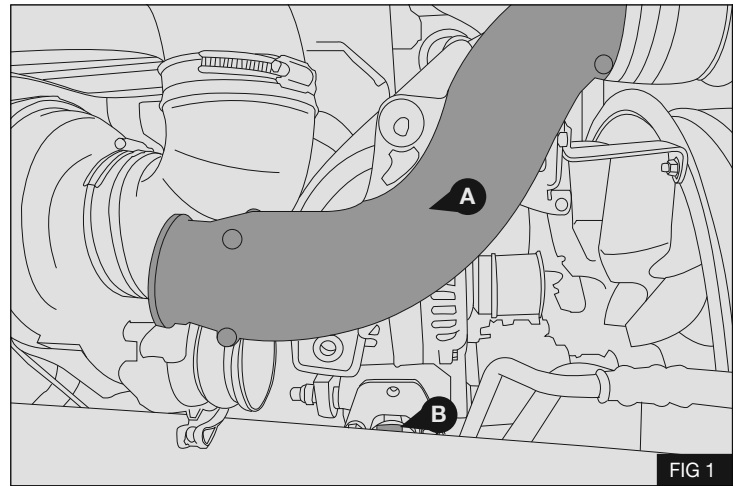
2. Remove and discard fastener (B) securing the air conditioning pipes - Fig 1

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 (I) - Fig 3



4. Release tension on drive belt and lock automatic belt tensioner **J** using a suitable pin - Fig 4
5. Mark direction of rotation on drive belt **K**, remove belt and retain for re-use - Fig 4
6. Remove and retain fasteners **L1** securing AC compressor **L** or Fasteners **M1** securing Foolish pulley **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

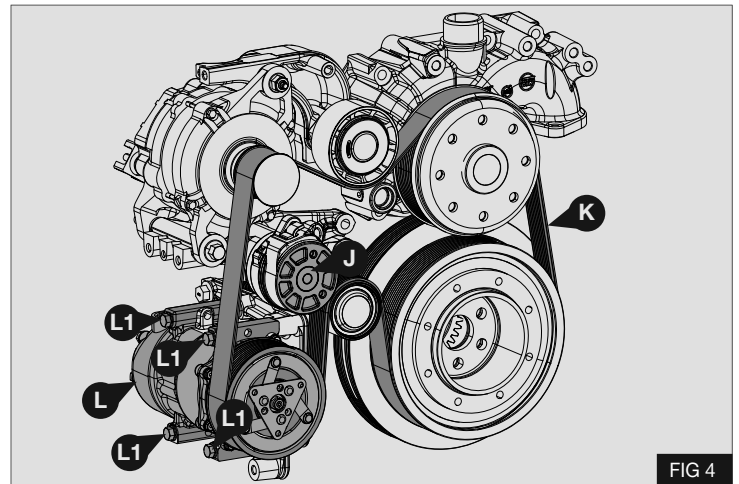


FIG 4

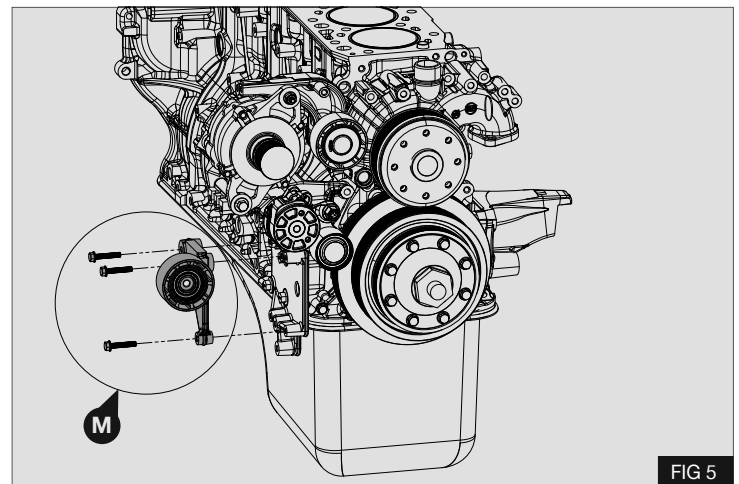


FIG 5

8. Remove and discard bracket **N** and its fasteners. Remove and discard fastener from point **O**. Clean excess paint from point **O** - Fig 6

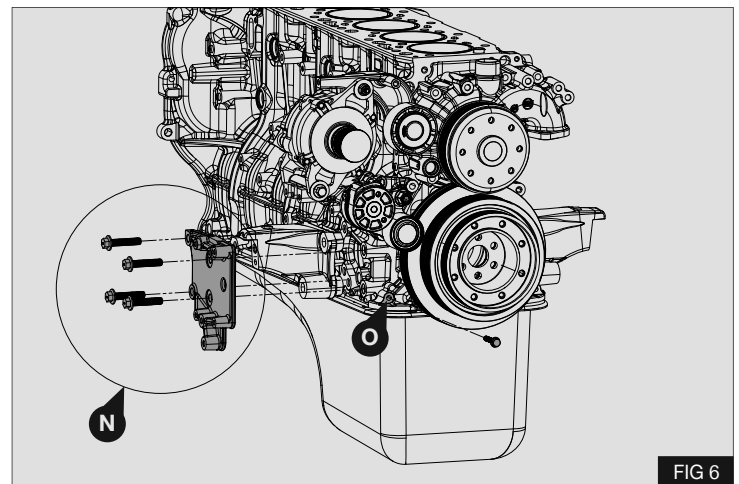


FIG 6

INSTALLATION

1. Fit crankshaft pulley **2** with original fasteners **H** and fan hub **C** - Fig 7

Torque bolts **H** to 65Nm / 48lbft

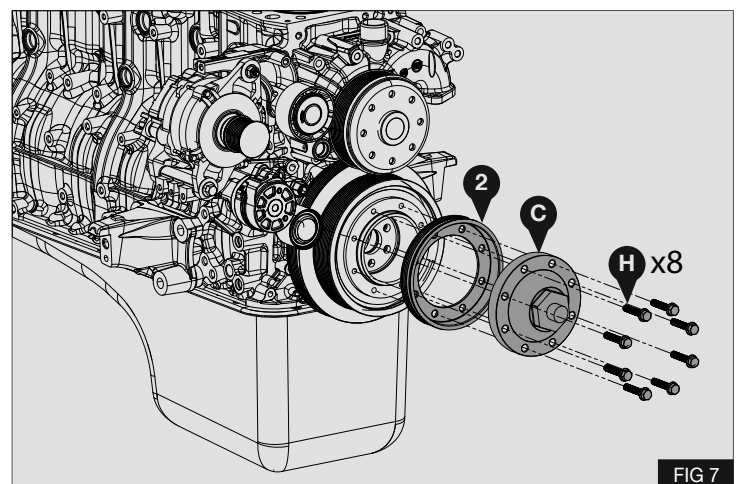
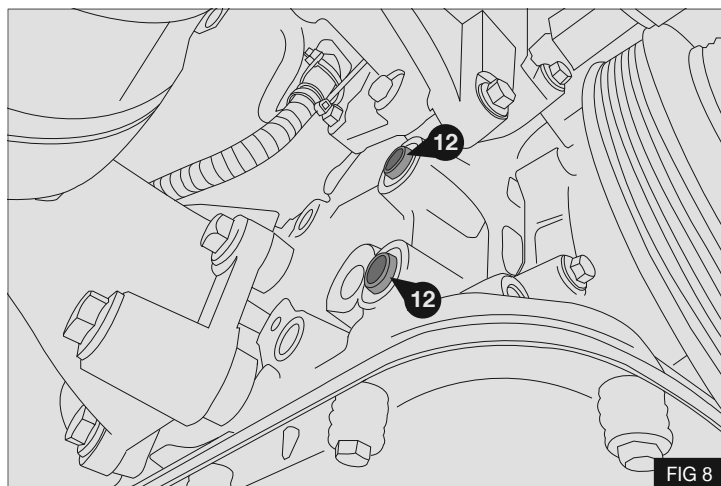


FIG 7

2. Insert alignment dowels (12) into positions on engine. - Fig 8

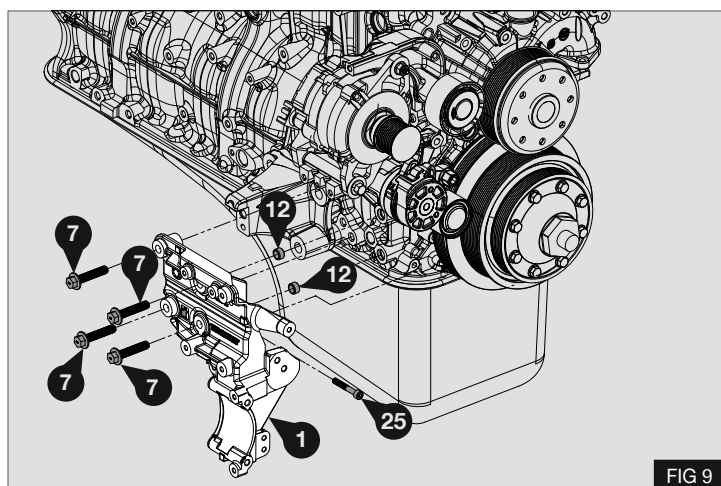


3. Fit mount bracket (1) with alignment dowels (12) using M12x60 bolts (7) and M8x55 Cap head screw (25) - Fig 9
4. Hand tighten all bolts then torque bolts in the following sequence:

Torque bolts (7) to 110Nm / 81Lbft

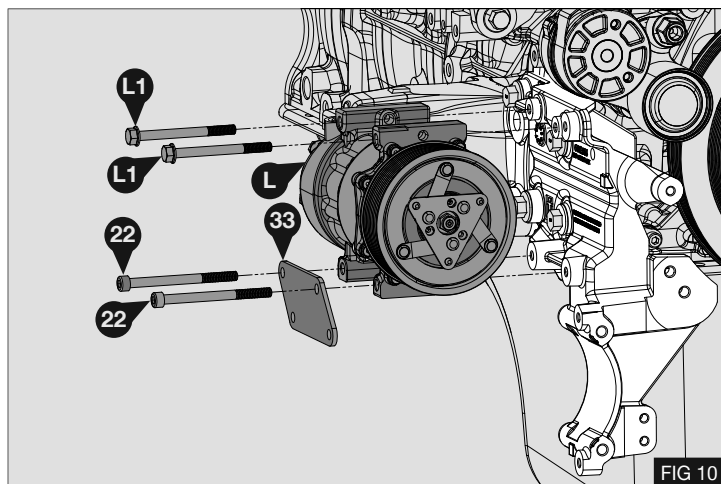
Torque bolt (25) to 29Nm / 21.4Lbft

Note: Ensure alignment dowels (12) are correctly inserted

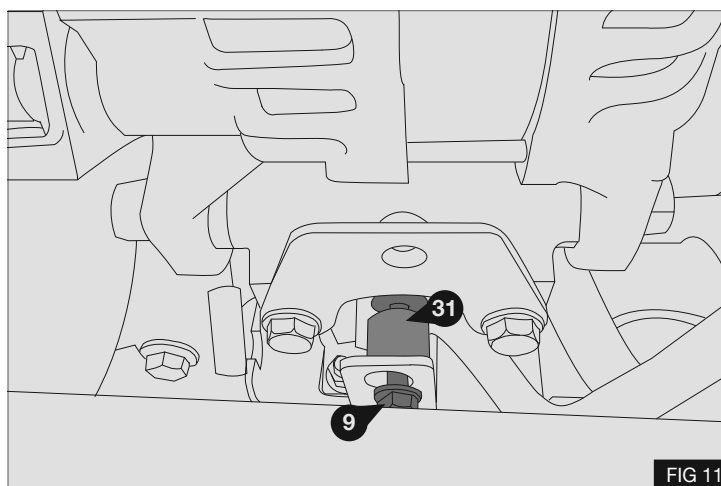


AC only

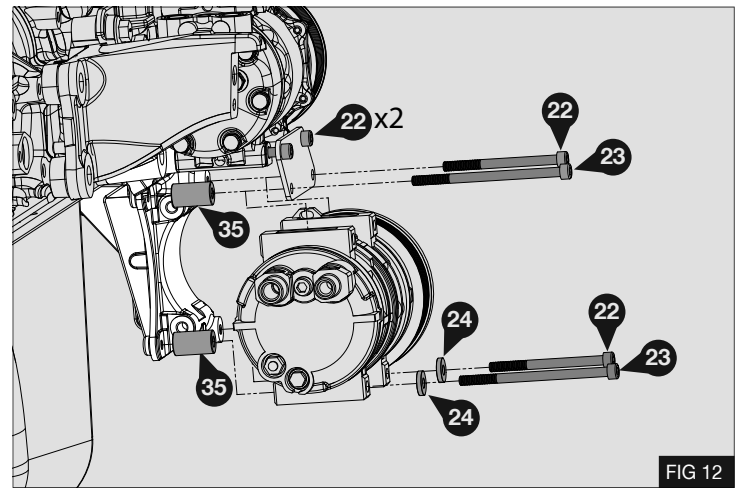
5. Re-fit air conditioning compressor (L) using 2 x original fasteners (L1) at points shown and 2 x M8x100 Cap head screws (22) with plate (33). Do not fully install the fasteners until the next procedures are completed - Fig 10



6. Install spacer (31) with M6x30 bolt (9) - Fig 11



- Fit the refrigerant compressor to bracket (1) using 2x M8x130 Cap head bolts (23) with Spacers (35) and M8 Thick Washer (24) at the rear of the compressor, Secure compressor at the front using 2x M8x100 Cap head bolts (22) with 1x M8 Thick washer (24) - Fig 12
- Torque bolts (23), (22) to 35Nm / 26Lbft
- Tighten compressor bolts (L1) to 25Nm / 18Lbft
- Tighten M6 Bolt (9) to 15Nm / 11Lbft - Fig 11

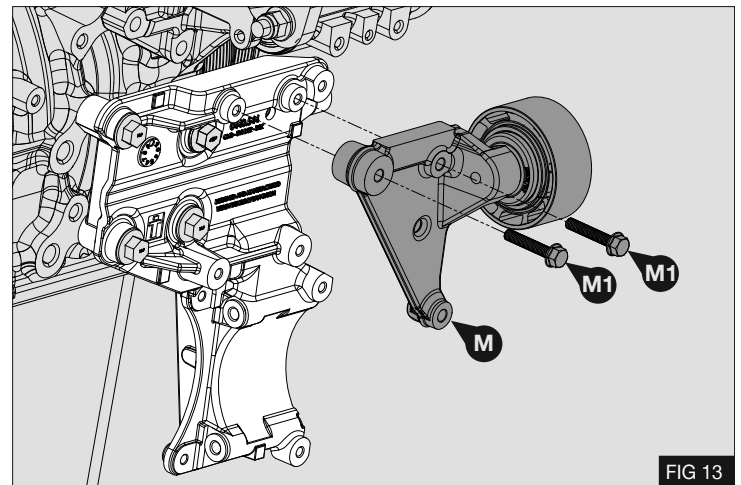


Non-AC only

- Refit the foolish pulley assembly (M) using 2x original fasteners (M1) - Fig 13

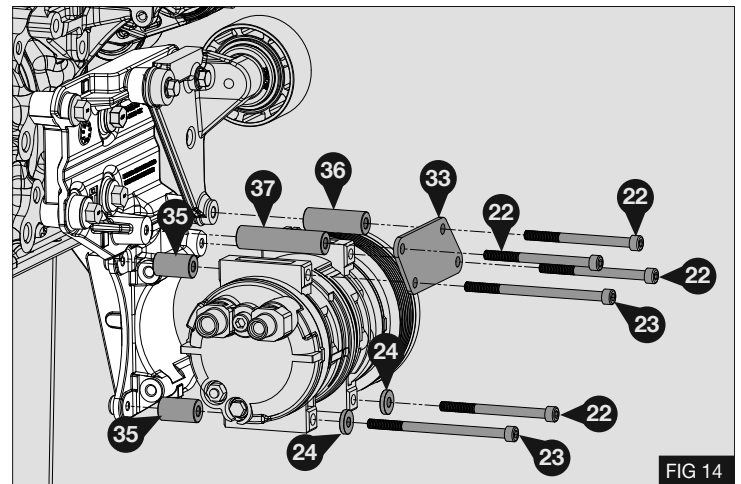
Note: Only install 2x (M1) as shown

Torque bolts (M1) to 25Nm / 18Lbft



- Fit the refrigerant compressor, securing through the lower mountings using 1x M8x130 Cap head bolt (23) with Spacer (35) and M8 thick washer (24), Secure lower front using 1x M8x100 Cap head bolt (22) with M8 thick washers (24).
- Secure compressor upper mounts using plate (33), and 3x M8x100 Cap head bolts (22) with spacers (36) and (37). Secure upper rear of compressor using 1 x M8x130 Cap head bolt (23) with spacer (35) - Fig 14

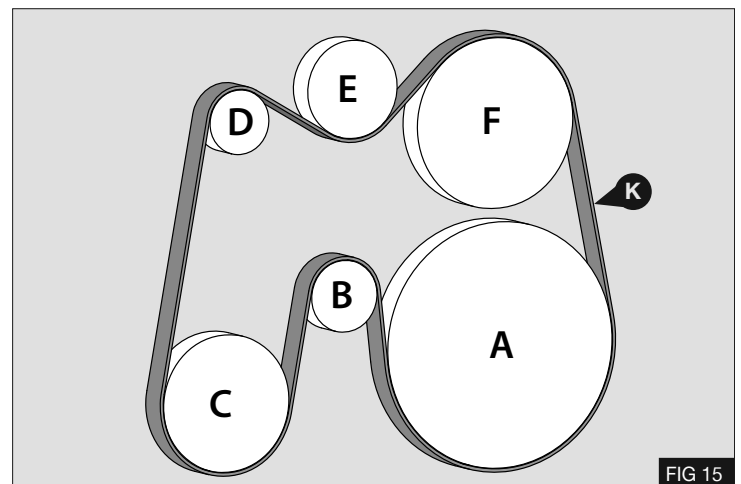
Torque bolts (22), (23) to 35Nm / 26Lbft



All models

- Refit the original drive belt (K) and release automatic tensioner - Fig 15

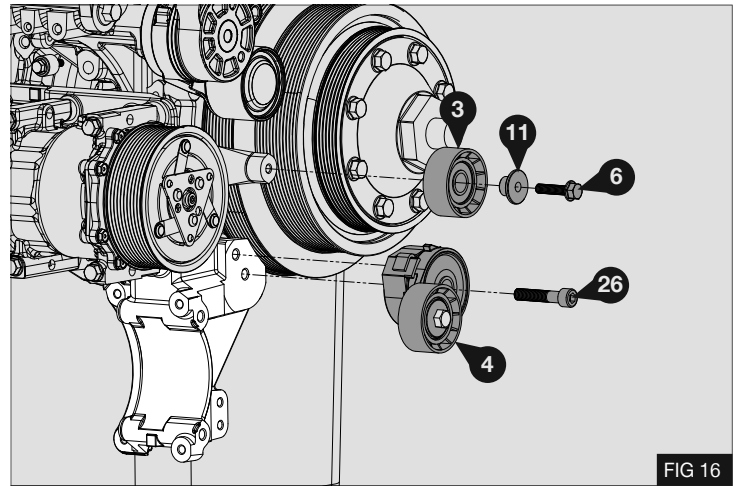
- A. Crank pulley
- B. Automatic tensioner
- C. AC Compressor / Foolish pulley
- D. Alternator
- E. Idle pulley
- F. Water pump



2. Fit Idle pulley (3) to bracket (1) with spacer (11) and M8x35 flange bolt (6) - Fig 16
3. Fit automatic tensioner (4) using M10x50 Cap head bolt (26) - Fig 16

Torque bolt (6) to 35Nm / 26Lbft

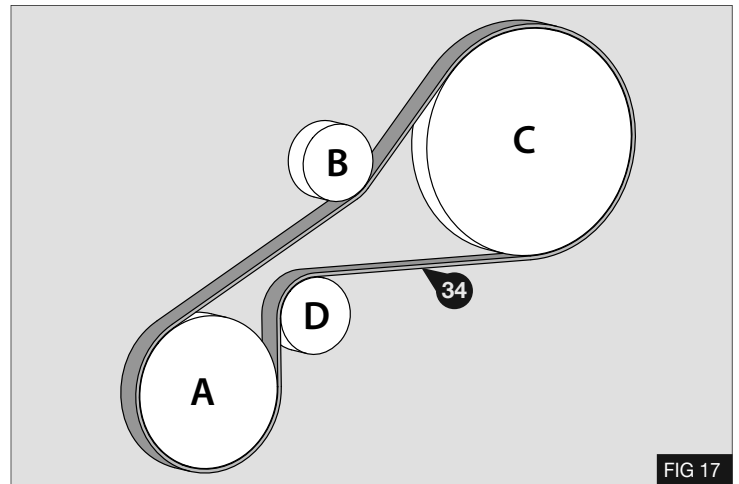
Torque bolt (26) to 45Nm / 32Lbft



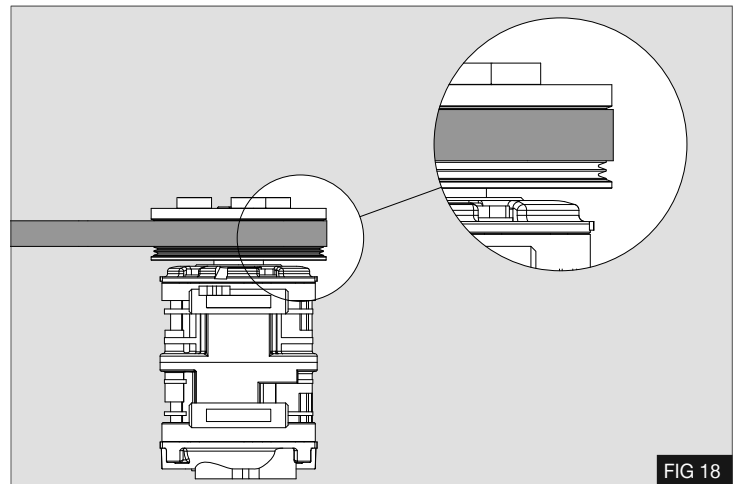
All Models

1. Fit compressor belt (34) into the correct grooves. - Fig 17 / 18

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

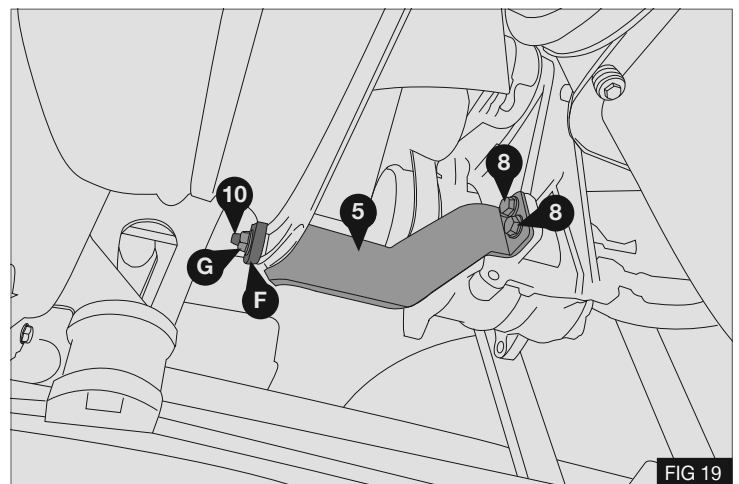


2. TM/QUE. Belt is installed at the rear of the compressor. - Fig 18



3. Re-fit viscous 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 (8) and M8x30 bolt (10) - Fig 19

Torque bolts (8), (10) to 29Nm / 21.4Lbft

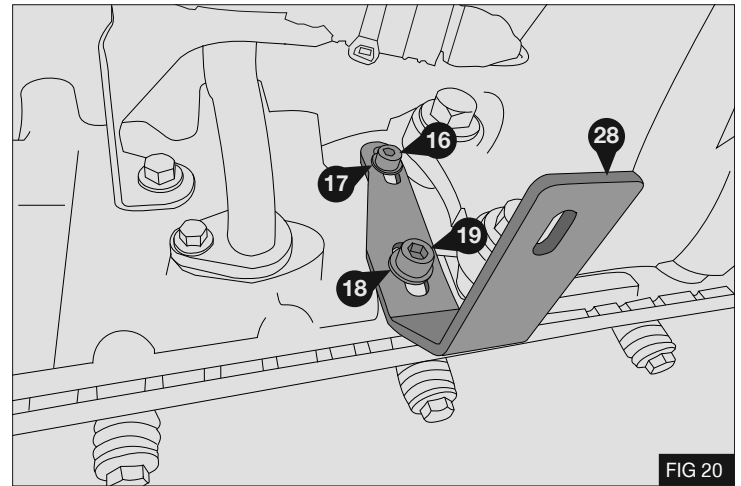


HOSE ROUTING**All Models**

Install Hose support (28) using M8x20 Cap head bolt (16) with M8 flat washer (17) and M10x25 Cap head (19) with M10 flat washer (18) - Fig 20

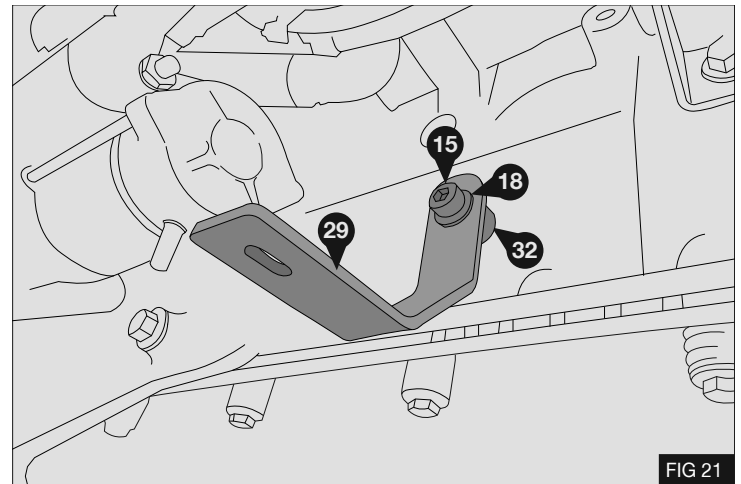
Torque bolt (19) to 45Nm / 32Lbft

Torque bolt (16) to 35Nm / 26Lbft

**6 Cylinders only**

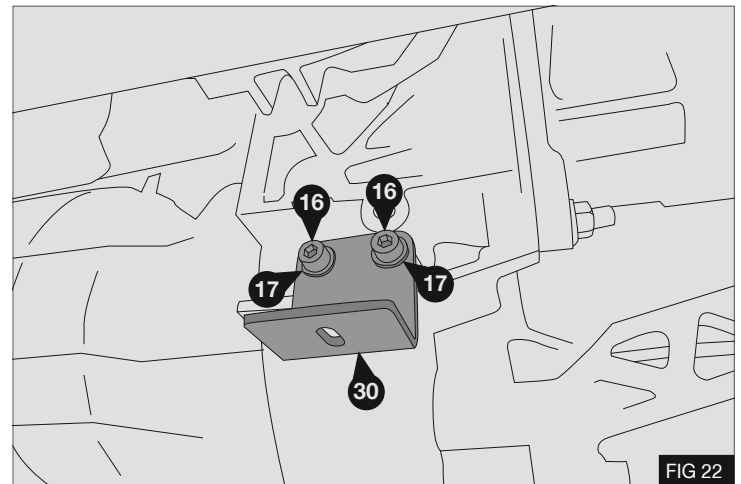
Install Hose support (29) with Spacer (32) secure using M10x40 Cap head bolt (15) and M10 flat washer (18) - Fig 21

Torque bolt (15) to 45Nm / 32Lbft

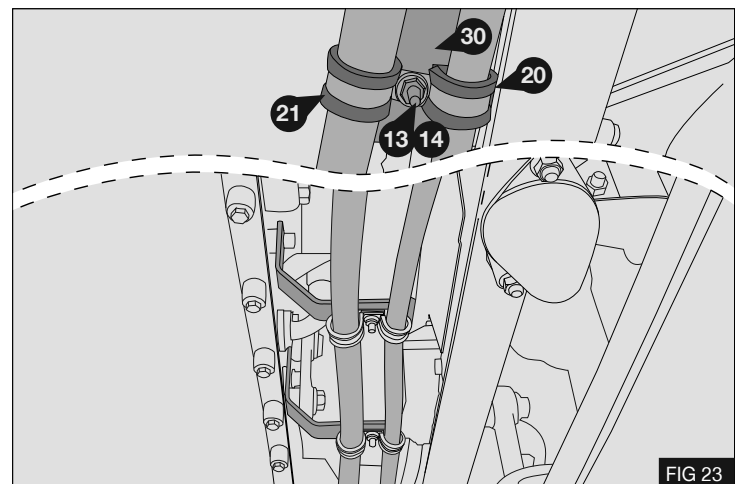
**All Models**

1. Install Hose support (30) using 2x M8x20 Cap head bolts (16) with M8 flat washers (17) - Fig 22

Torque bolt (16) to 35Nm / 26Lbft



2. Secure hoses to support brackets using P clips (21) and (20) with M6 x 25 bolts (13) and M6 nuts (14)



WIRING

RH Drive

1. Remove trim (N) from the passenger side compartment to improve access for the following instructions. - Fig 24

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 25 & 26

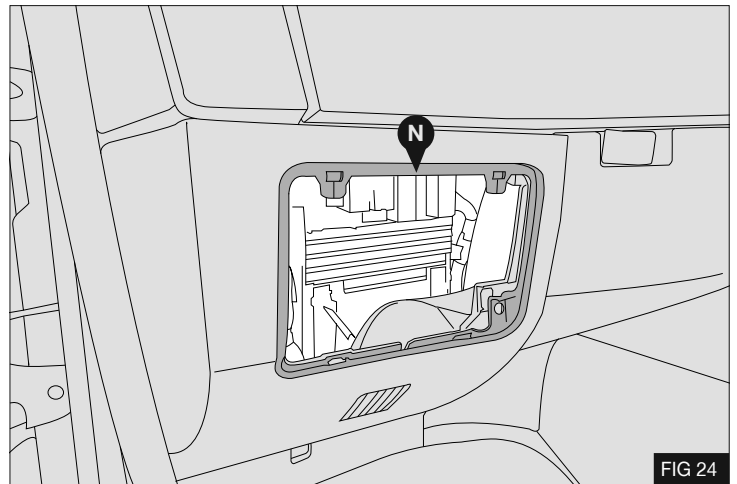


FIG 24

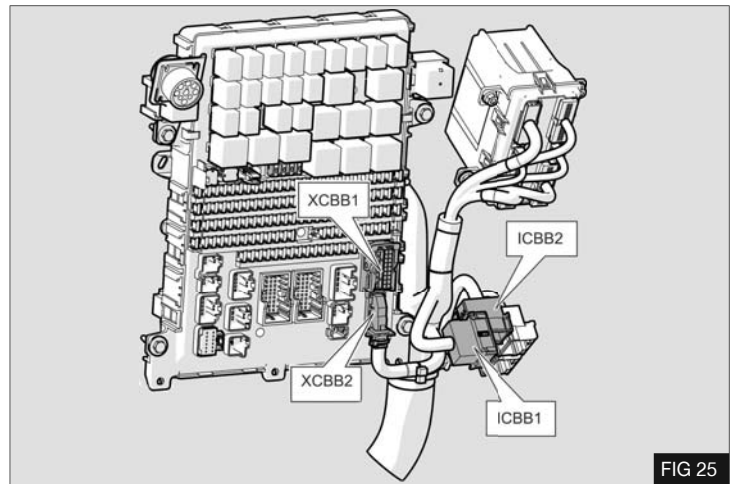


FIG 25

| 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 |

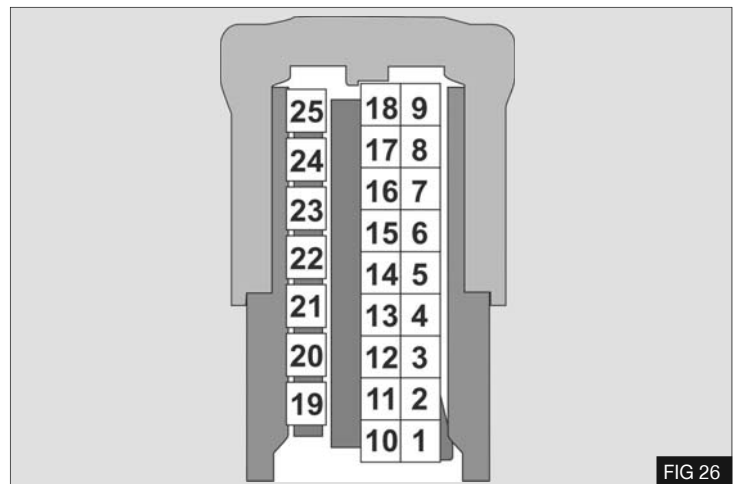


FIG 26

For vehicles with robotized gearbox

1. Locate connector ICBB1. - Fig 25
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

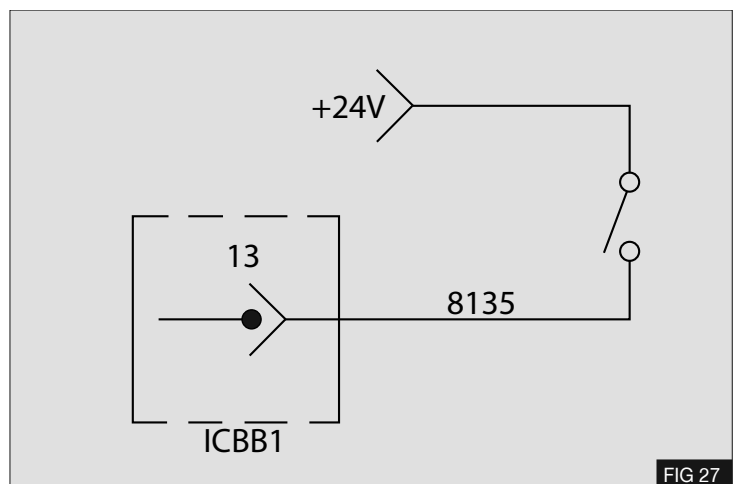


FIG 27

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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