



**Techni**  
ENGINEERING SOLUTIONS

## **FORD**

**ALL-NEW TRANSIT / RWD 2.2 EURO 5/6 (+/- AC)  
350, 430, 470**

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**CODE / CODICE: 0500.7372**

**COMPRESSOR / COMPRESSEUR / KOMPRESSOR  
/ COMPRESSORE / COMPRESOR :**

VALEO : TM13 /15 / 16

QUE : QP13 /15 / 16

SANDEN : SD7H15

DELPHI SP15

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**FITTING INSTRUCTIONS**

**EINBAUANLEITUNGEN**

**INSTRUCTIONS POUR LE MONTAGE**

**ISTRUZIONI DI MONTAGGIO**

**INSTRUCCIONES DE MONTAJE**

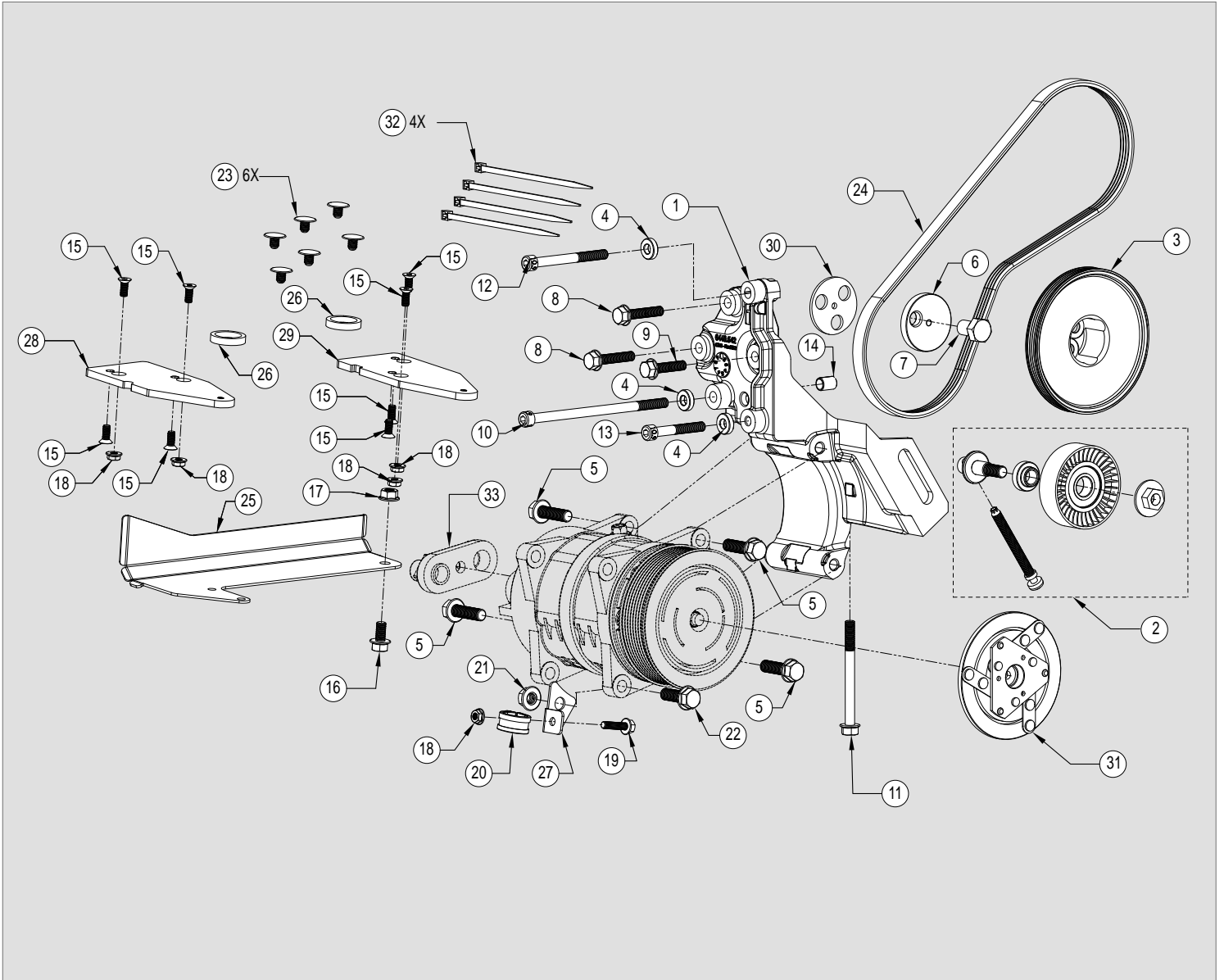
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PARTS VIEW / VUE ÉCLATÉE / TEILEANSICHT / VISTA PARTA / IMÁGENES DE LAS PIEZAS



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

ITEM	CODE / CODICE / KODE / CODIGO	DESCRIPTION / DESCRIZIONE / BESCHREIBUNG / DESCRIPCION	QTY.	COMMENTS
1	0441.5421	Compressor Mount Bracket	1	
2	1705.5022	Belt Tensioner Assembly	1	
3	1701.5381	Crankshaft Drive Pulley	1	
4	2803.5891	Hardened Spacer ID8.3 x ID18 x L5	3	
5	2705.0241	Hex Flange Bolt Durlok - M10 x 35 : 1.50 - 12.9	4	
6	2803.3773	Crankshaft Pulley Drilling Jig	1	
7	2723.0041	Set Screw 1/2 x 0.75 - 20 UNF	1	
8	2704.0201	Hex Flange Bolt Durlok - M8 x 40 : 1.25 - 12.9	2	
9	2704.0481	Hex Flange Bolt Durlok - M8 x 35 : 1.25 - 12.9	1	
10	2704.5651	Hex Socket Head Cap Screw M8 x 150 : 1.25 - 10.9	1	
11	2704.5381	Hex Flange Bolt - M8 x 90 : 1.25 - 8.8	1	
12	2704.5661	Hex Socket Head Cap Screw M8 x 80 : 1.25 - 10.9	1	
13	2704.5671	Hexagon Socket Head Cap Screw M8 x 55 : 1.25 - 10.9	1	
14	2800.0531	Split Dowel Bush	1	
15	2702.5001	M6 x 16 Flat Countersunk Cap Screw	8	
16	2704.1521	Hex Flange Bolt Durlok - M8 x 16 : 1.25 - 12.9	1	
17	2734.0021	Durlok Hexagon Flange Nut - M8 : 1.25	1	
18	2732.0041	Hexagon Flange Nut Durlok - M6 : 1.00	5	
19	2702.0111	Hex Flange Bolt Durlok - M6 x 25 : 1.00 - 12.9	1	
20	2771.1031	P Clip 19MM	1	
21	2735.0071	Durlok Hexagon Flange Nut - M10 : 1.50	1	
22	2705.0491	Hex flange bolt Durlok - M10 x 30 : 1.50 - 12.9	1	
23	2771.1091	Plastic Fir Tree Plug 19.0 x 11.0	6	
24	0820.7241	Belt- Poly Groove 4PK 938	1	
25	3020.6241	Coolant Hose Guard	1	
26	2803.5881	Radiator Spacer	2	
27	3020.6251	Hose Support Bracket	1	
28	3020.6221	Radiator Support Mount A	1	
29	3020.6231	Radiator Support Mount B	1	
30	2803.5263	Crankshaft Pulley Spacer - SMF Crankshaft Only	1	
31	0421.0011	Clutch Armature SL - Seltec/QUE 13/15/16	1	
32	2763.0051	Cable Tie 4.8 x 370 - Black	4	
33	0425.0141	Manifold H 3/4 x 7/8	1	Not Included

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

SELTEC	TM-13 HS	TM15-HS	TM16-HS
Comp No	0381.0412	0381.0032	0381.0512
Valeo No.	-	488.45322	488.46322
Mounting	Ear	Ear	Ear
Rotor	8PV	8PV	8PV
GL	46.55	46.55	46.55
Armature	SL	SL	SL
Diameter	123	123	123
Voltage	12	12	12
Orientation	H	H	H
Fitting	3/4 x 7/8	3/4 x 7/8	3/4 x 7/8
Manifold	Bolt	Bolt	Bolt

QUE	QP13-HD	QP15-HD	QP16-HD
Comp No	0391.0412	0391.0032	0391.0512
QUE No.	-	QP15-1340	-
Mounting	Ear	Ear	Ear
Rotor	8PV	8PV	8PV
GL	46.55	46.55	46.55
Armature	SL	SL	SL
Diameter	123	123	123
Voltage	12	12	12
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	-	SD5H14	SD7H15
Comp No.	-	-	0370.0080
Sanden No.	-	-	8256
Mounting	-	-	Ear
Rotor	-	-	8PV
GL	-	-	46.55
Armature	-	-	SL
Diameter	-	-	123
Voltage	-	-	12
Orientation	-	-	H
Fitting	-	-	3/4 x 7/8

DELPHI	-	SP15	-
Comp No.	-	0310.0011	-
Delphi No.	-	015201/1	-
Mounting	-	Ear	-
Rotor	-	8PV	-
GL	-	50.1	-
Armature	-	SL	-
Diameter	-	122.4	-
Voltage	-	12	-
Orientation	-	H	-
Fitting	-	1-14 UNF-2A	-

**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.

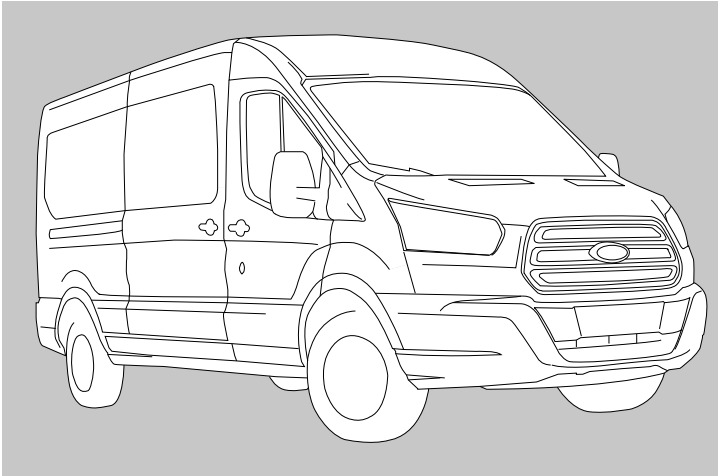
**VALORI STANDARD DI SERRAGGIO PER DISPOSITIVI DI FISSAGGIO**

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	FORD
Model	All-New Transit RWD
Model Type	350 / 430 / 470
Engine	2.2 TDCi -100/125/155 PS
Engine Details	Euro 5b+ (Stg V), Euro 6 (HDT Stg VI)
Year	04.2014>
Chassis Type	V363
LHD	YES
RHD	YES
PAS	YES
A/C	YES
Voltage	12v

## KIT DETAILS

Kit Part Number	0500.7372
Description	Standard Kit
Compressor RPM	4700 @ Max engine power output
Fitting Time	120 Minutes
Suction Fitting	Straight
Discharge Fitting	Straight
Belt Type	4PK 938
Belt Part Number	0820.7241

## 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

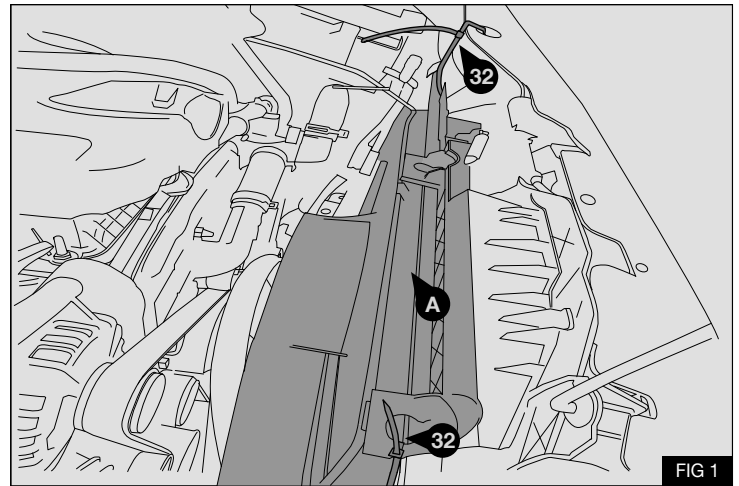
**Warning:** This calls awareness to actions which must be pursued to avoid damage to the components.

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

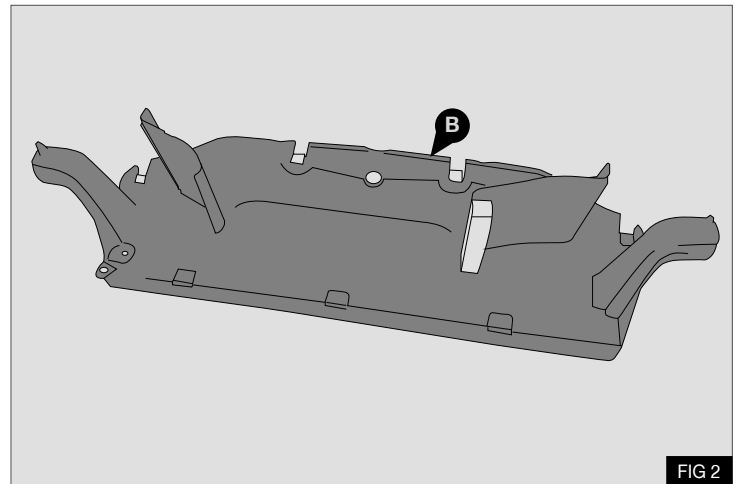
**PRE INSTALLATION**

1. Disconnect the batteries and remove the ignition key from the vehicle.
2. Using cable ties (32) secure the radiator (A) as shown.  
- Fig 1

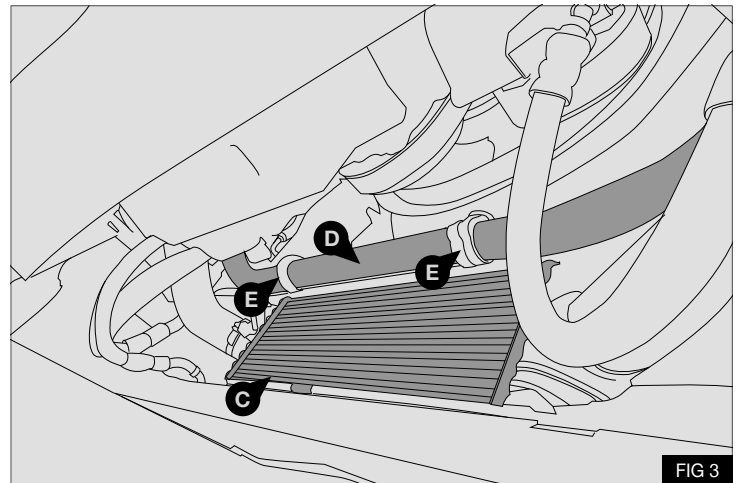
**NB:** This operation is necessary to facilitate removal of the radiator lower support.



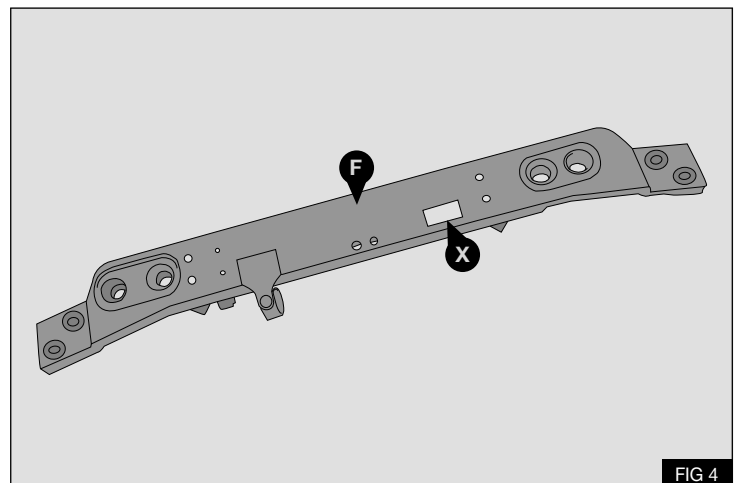
3. Remove and retain plastic guard (B) and its fixings. - Fig 2



4. Disconnect hoses and wiring connector from intercooler (C).  
Unclip coolant hose (D) from the coolant hose supports (E). - Fig 3



5. Remove radiator lower support (F) and intercooler (C), discard fasteners (ensure radiator remains secure). Remove and discard coolant hose support (E) from position (X) - Fig 4

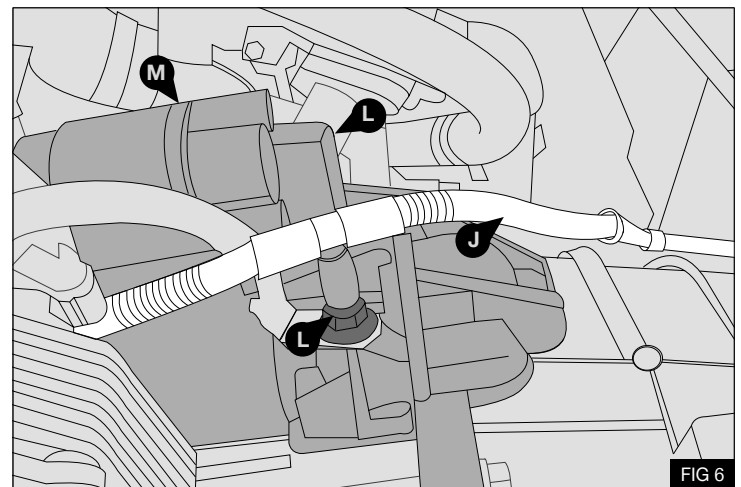
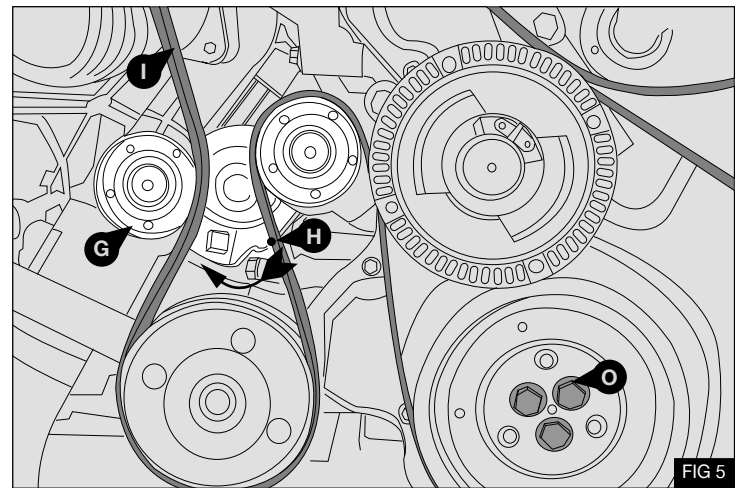




6. Using a Viscous fan removal tool (not supplied) remove the viscous fan assembly from the engine.
7. Using a suitable tool rotate the automatic belt tensioner ③ to release the tension and lock with a pin at point ④ remove the original manufacturer's drive belt ① taking care to check the direction of rotation and noting the original routing, if different from the diagram shown in Fig 18 report your findings to your Kit/System supplier before proceeding - Fig 5

**Warning:** To avoid damage to the engine dual mass flywheel the subsequent method must be performed correctly. DO NOT LOCK THE ENGINE BY REMOVING THE CRANKSHAFT SENSOR

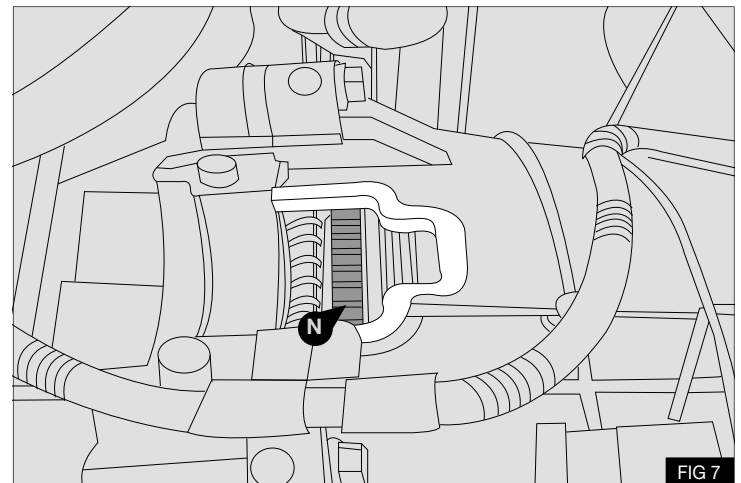
8. Temporarily move the cable ⑤ to gain access to the starter motor bolt ⑥ - Fig 6
9. Temporarily remove the two bolts ⑦ that fasten the starter motor ⑧ to the engine - Fig 6
10. Move the starter motor ⑧ to gain access to the flywheel ring gear.



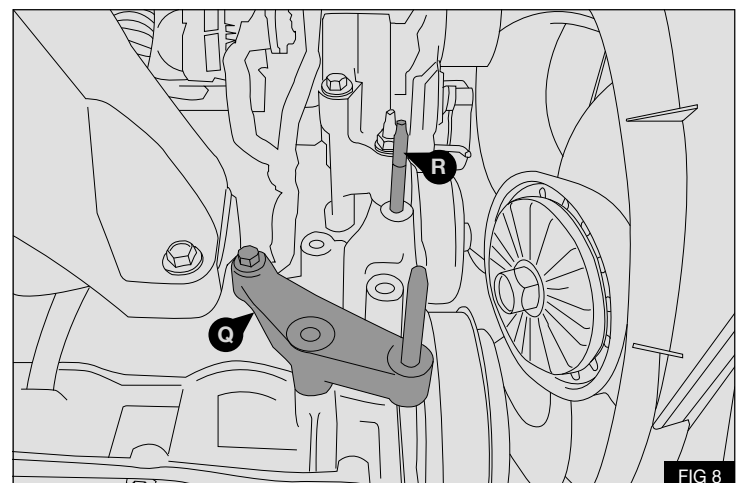
11. Using a suitable tool lock the flywheel ring gear at point ⑨ - Fig 7

**Warning:** Take care not to damage the flywheel Reluctor ring.

12. Remove the three bolts ⑩ retaining the engine crankshaft damper and carefully remove the damper - Fig 7



13. Remove and discard the fasteners securing PAS pump. Place pump to one side without disconnecting the hoses.
14. Remove and discard the PAS lower bracket ⑪ and its fasteners.
15. Remove and discard fastener from position ⑫ - Fig 8



**DRIVE PULLEY INSTALLATION**

1. Check the type of engine crankshaft damper fitted to the vehicle, Single Mass Flywheel (SMF) (S) or Dual Mass Flywheel (DMF) (T) - Fig 9

**Warning:** Check engine crankshaft damper specification, part number is moulded onto the front of the damper.

2. Mount the drilling jig (6) to the rear of the previously removed engine damper fixing it with bolt (7)
3. Drill a 5mm hole through the drilling jig and crankshaft damper. - Fig 10

**Warning:** Centralise the drilling jig (6) between the locating lugs on the damper.

**Single Mass Flywheel (SMF) - Only**

4. Assemble the supplied crankshaft pulley (3) and spacer (30) to the original crankshaft damper type (S) and fix to the original position using the original bolts (O) - Fig 11

**Dual Mass Flywheel (DMF) - Only**

5. Assemble the supplied crankshaft pulley (3) and to the original crankshaft damper type (T) and fix to the original position using the original bolts (O) - Fig 12

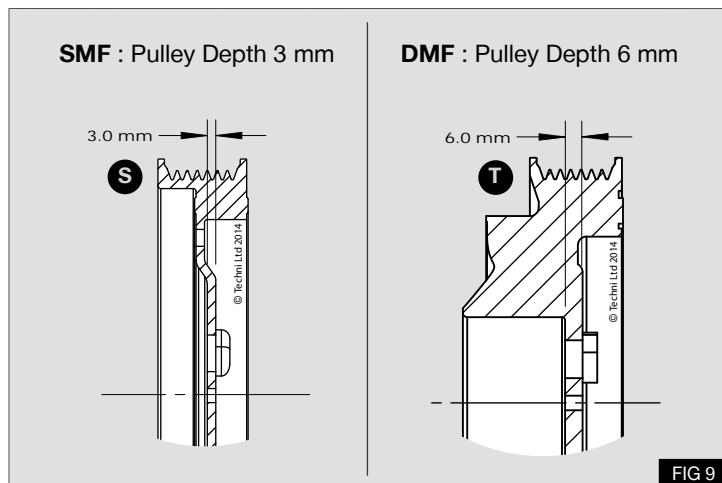


FIG 9

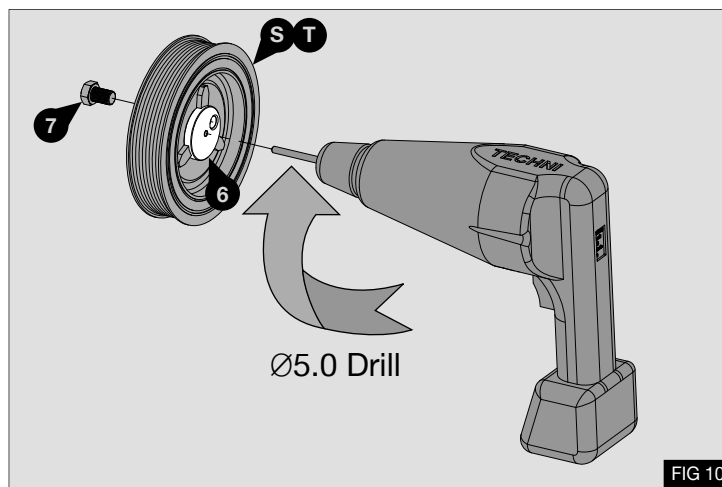


FIG 10

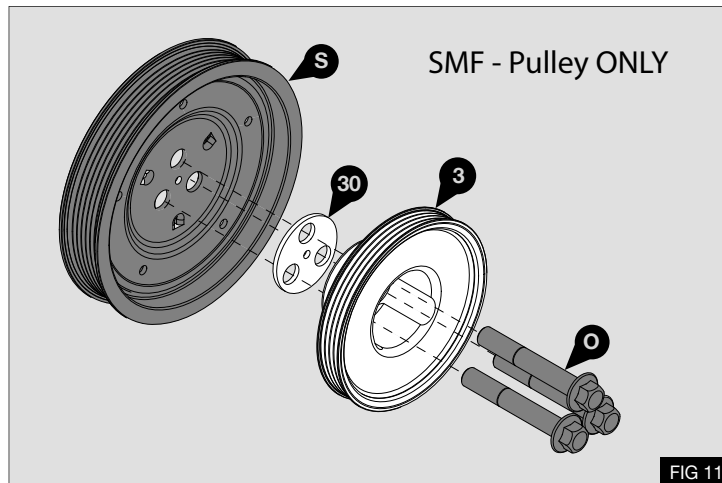


FIG 11

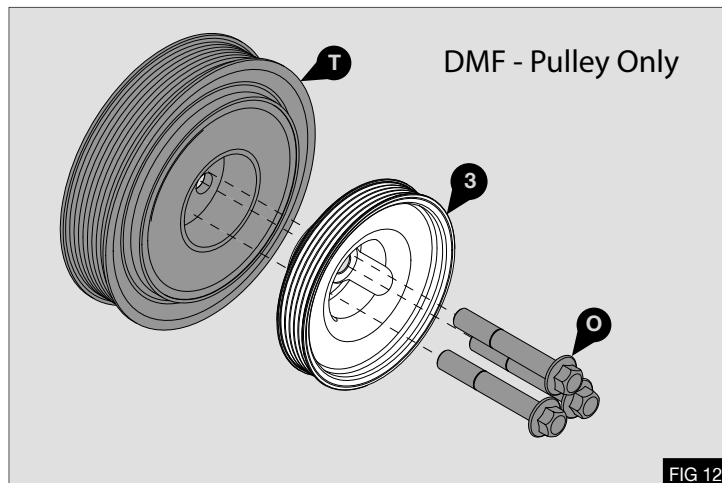


FIG 12

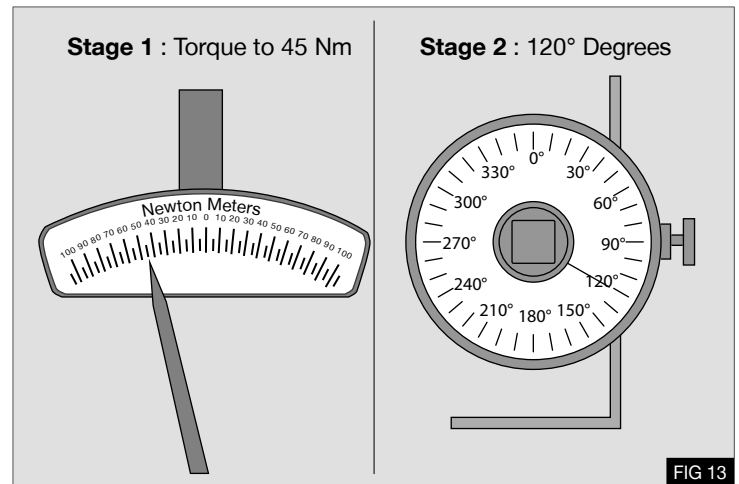
6. Lock the flywheel ring gear and tighten the bolts ⑩ in the following sequence. See Fig 13:

**First Stage** - Torque all three bolts to 45 Nm using a calibrated torque wrench.

**Second Stage** - Tighten to 120 Degrees using a torque angle gauge.

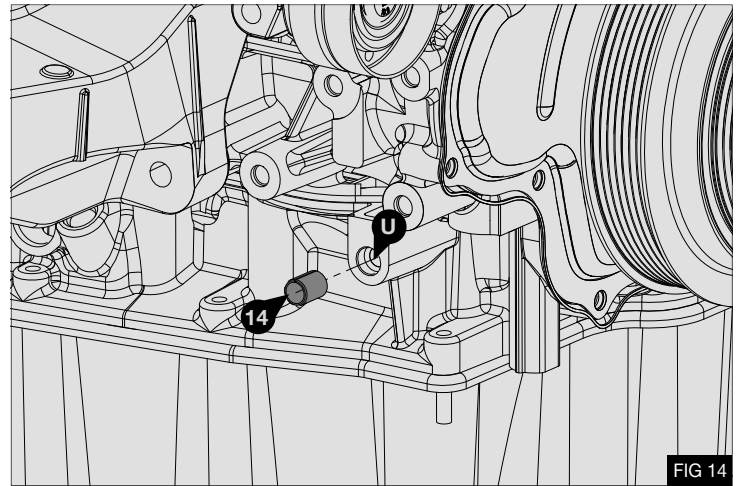
**Warning:** Bolts are to be used 3 times only, each time they are removed they are to be centre punched to show they have been used.

7. Reinstall the starter motor and cable previously removed.
8. Torque the starter motor bolts ① to 25 Nm using a calibrated torque wrench.

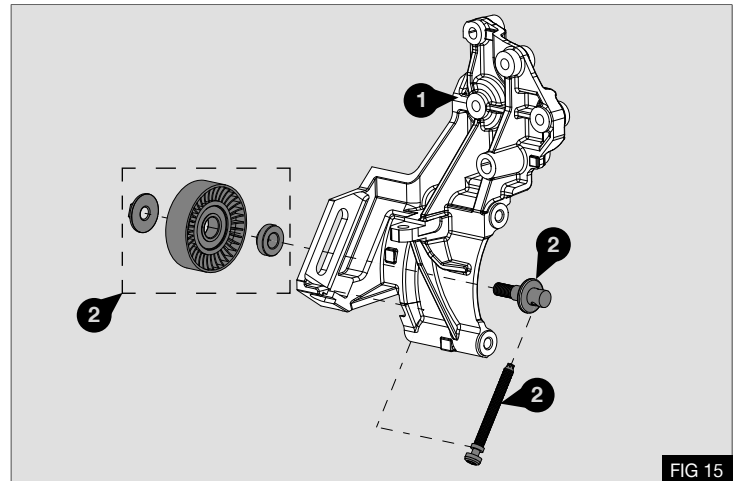


### MOUNT BRACKET INSTALLATION

1. Install the supplied location dowel ⑭ into the point shown on the engine ⑮ - Fig 14



2. Assemble the tensioner parts ② onto the bracket ① - Fig 15

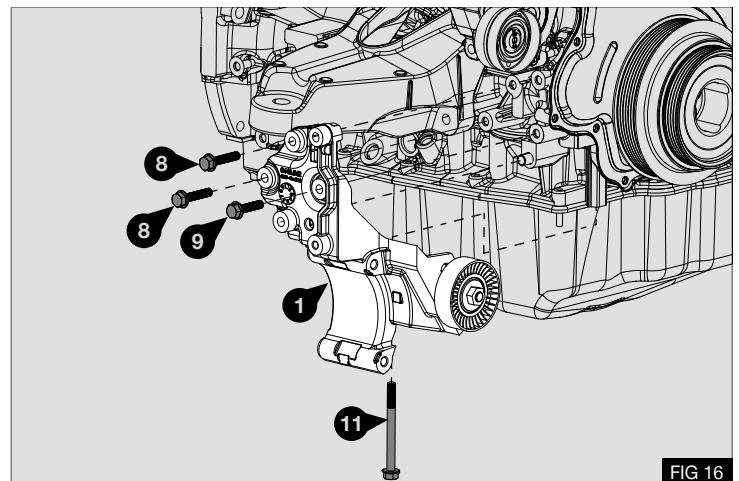


3. Fit the assembled bracket ① to the engine using M8 x 40 bolts ⑧, M8 x 35 bolt ⑨ and M8 x 90 bolt ⑪ - Fig 16

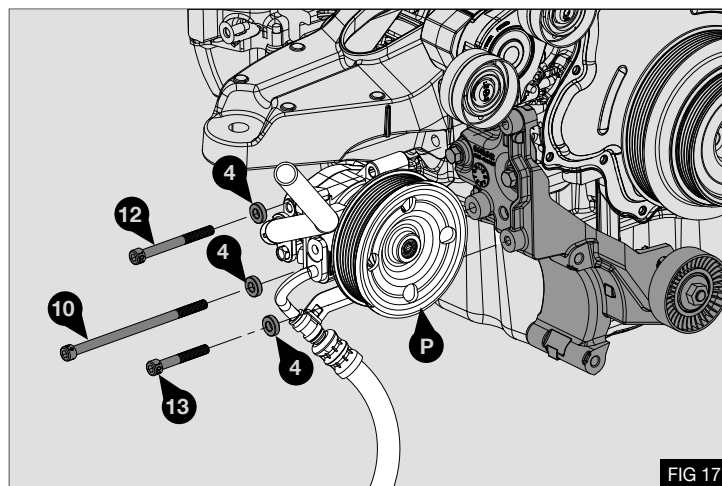
4. Fully install all bolts then torque bolts as follows:-

1. ⑧ and ⑨ – 29Nm / 21.4Lbft
2. ⑪ – 20Nm / 14.8Lbft

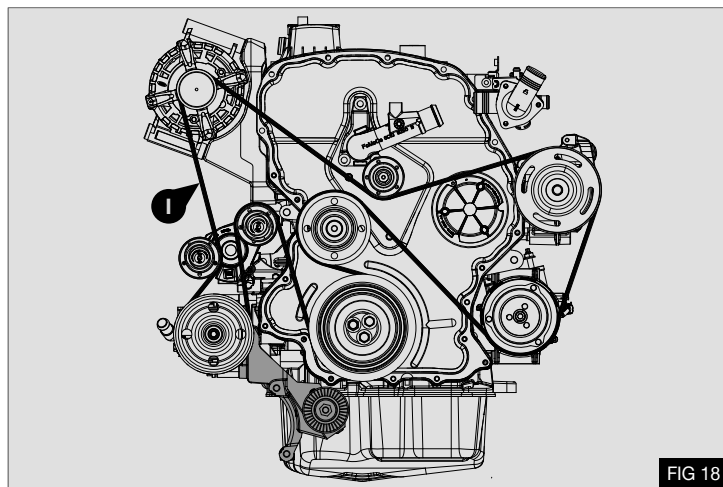
**CAUTION:** Ensure fasteners are located in the correct positions



5. Fit PAS pump (P) to bracket using M8 x 150 cap head bolt (10), M8 x 80 cap head bolt (12) and M8 x 55 cap head bolt (13) with hardened spacers (4) - Fig 17
6. Torque all bolts to - 29Nm / 21.4Lbft



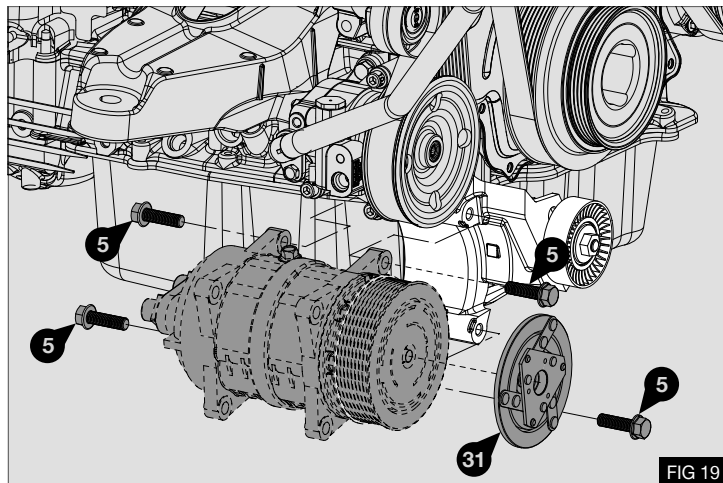
7. Re-fit the original drive belt (1) - Fig 18



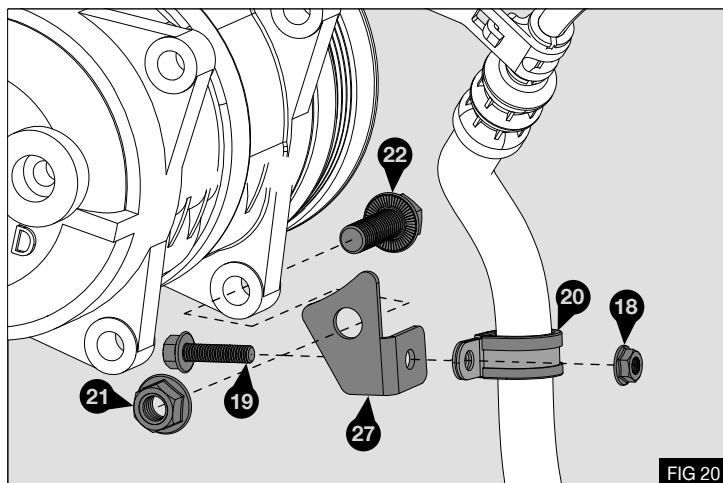
### COMPRESSOR INSTALLATION

1. For Seltec/ Que Compressors Install the SL armature (31) using original shims and fastener
2. Fit the compressor to the bracket and secure with M10 x 35 bolts (5) - Fig 19
3. Torque bolts (5) to 58Nm/ 42.8Lbft

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



4. Fit PAS hose support bracket (27) to compressor using M10 x 30 bolt (22) and nut (21) - Fig 20
5. Secure PAS hose to bracket (27) using Pipe clamp (20) M6 x 25 bolt (19) and M6 nut (18) - Fig 20

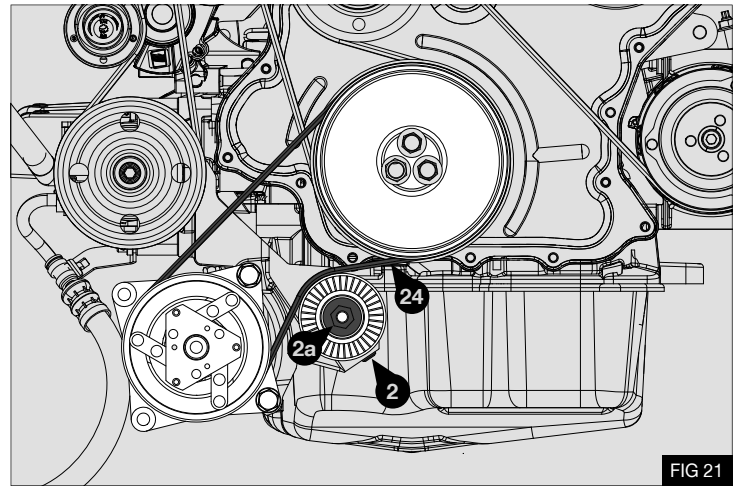


### COMPRESSOR BELT

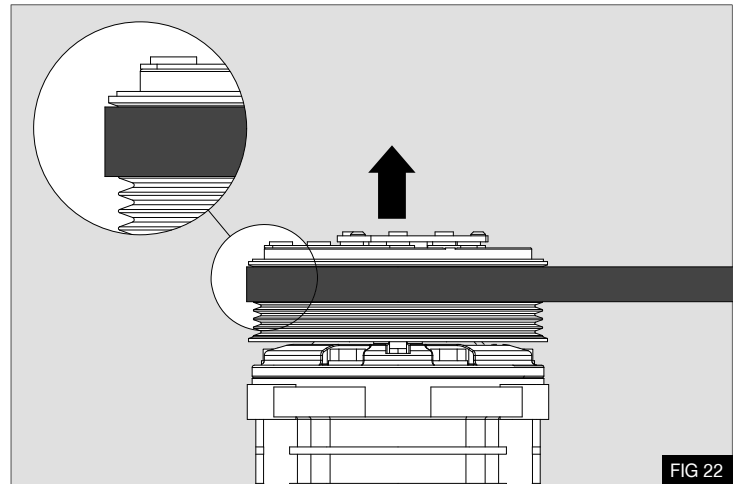
1. Install the compressor belt (24) into the correct grooves Figs 22 & 23, and as shown in Fig 21, tension using bolt (2), once correct belt tension is achieved (see table) tighten pulley nut (2a) - Fig 21

Torque nut (2a) to 25Nm / 18lbf

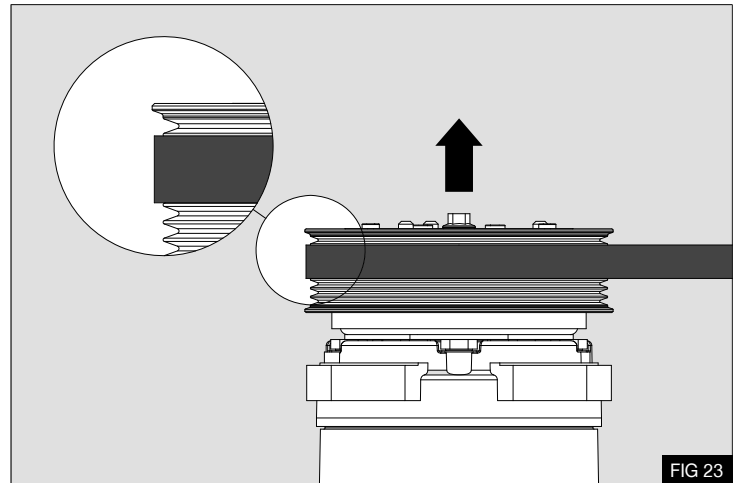
BELT TENSION TABLE		
Belt	Belt Age	Belt Tension Using the Belt Tension Gauge
4PK	New Belt	48 - 56 kg
4PK	Used Belt	36 - 40 kg



2. TM / QUE / Sanden compressors - Belt is installed at the front of the compressor - Fig 22

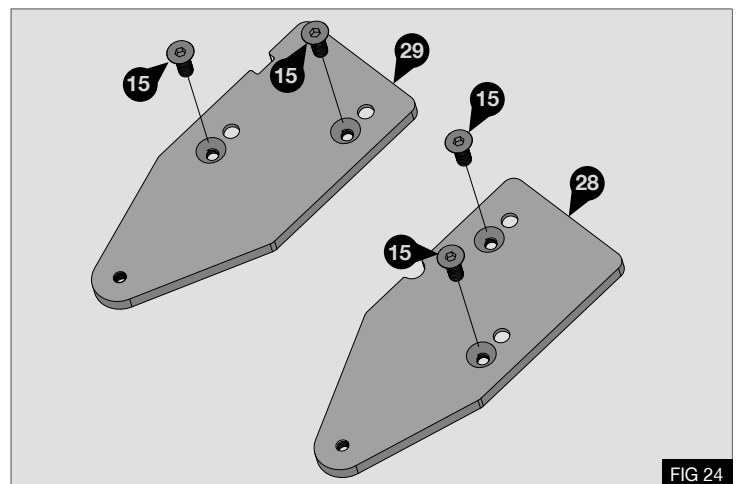


3. Delphi SP15 compressors - Belt is installed with 1 spare groove at the front of the compressor pulley - Fig 23

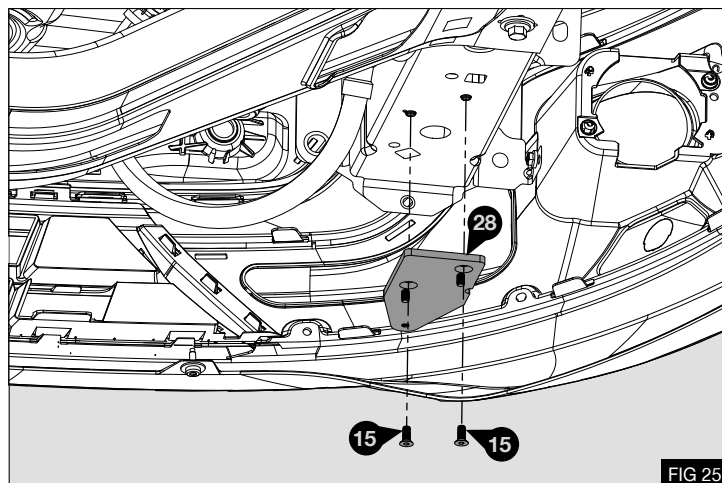


### RADIATOR FIXING

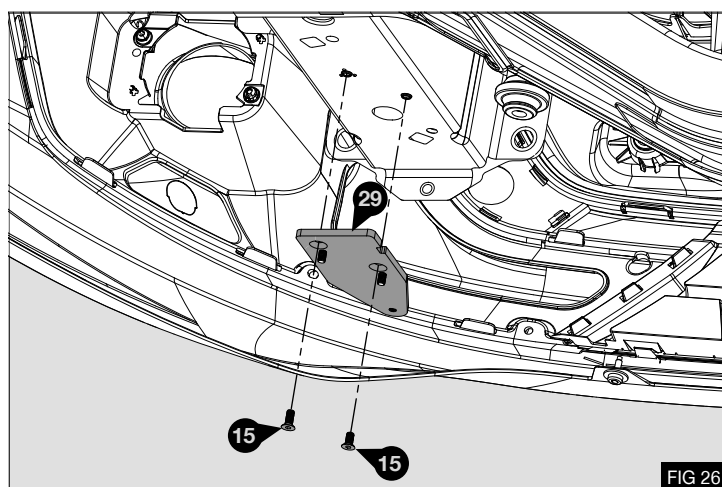
1. Insert the M6 x 16 screws (15) into the threaded holes on the radiator support mounts (28) and (29) - Fig 24
2. Torque bolts (15) to 8Nm / 6lbf



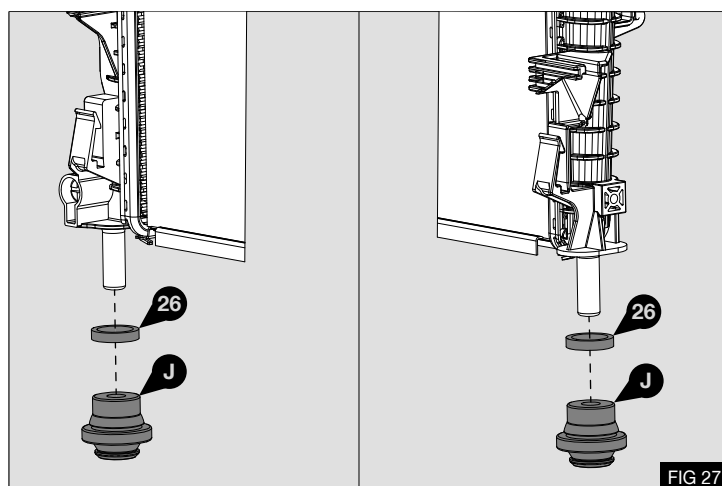
3. Fit the radiator cross member plate (28) to points shown using the M6 x 16 screws (15) - Fig 25
4. Torque bolts (15) to 8Nm / 6lbft



5. Fit the radiator cross member plate (29) to point shown using the M6 x 16 screws (15) - Fig 26
6. Torque bolts (15) to 8Nm / 6lbft

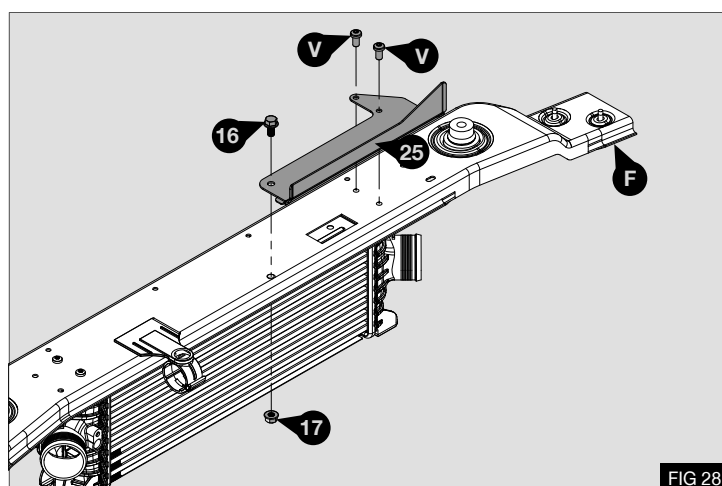


7. Remove the radiator lower mounting bushes (J), fit spacers (26) then re-fit bushes (J) - Fig 27



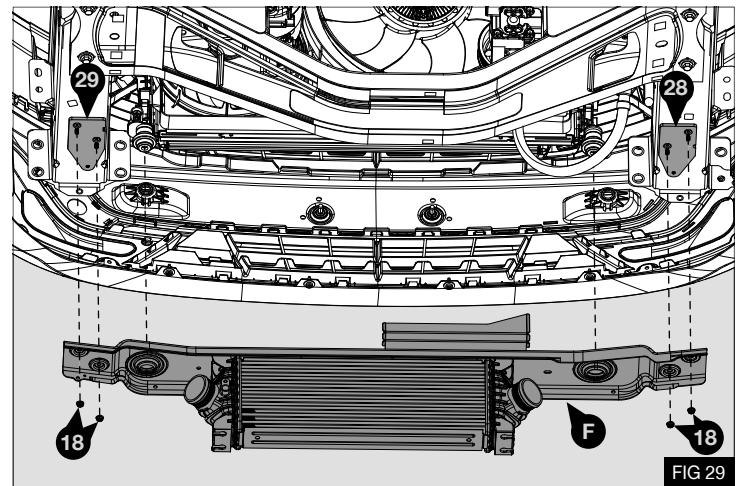
8. Fit the supplied plate (25) to the radiator cross member (F) secure using the original M6 screws (V) and M8 x 16 bolt (16) with M8 nut (17) - Fig 28
9. Torque bolt (16) to 25Nm / 18lbft
10. Torque original M6 screws (V) to 8Nm / 6lbft

**Note:** Insert bolt (16) from direction shown.

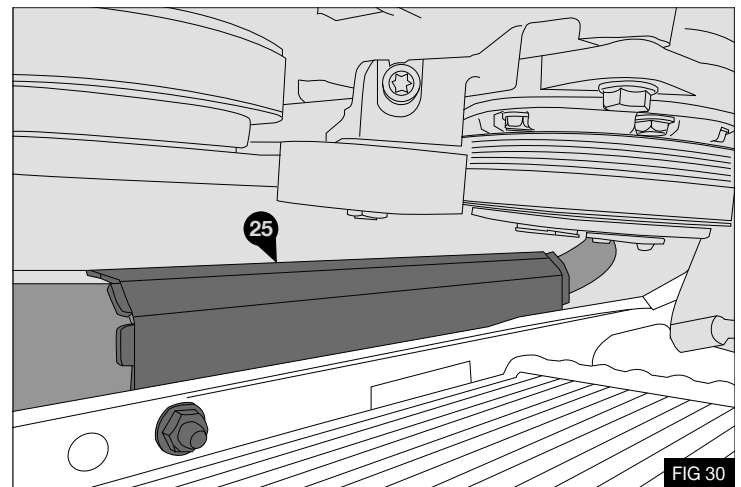


11. Fit radiator cross member assembly (F) and secure using M6 nuts (18) onto plate assemblies (28) and (29) previously installed - Fig 29
12. Use plastic plugs (23) as necessary (not shown)

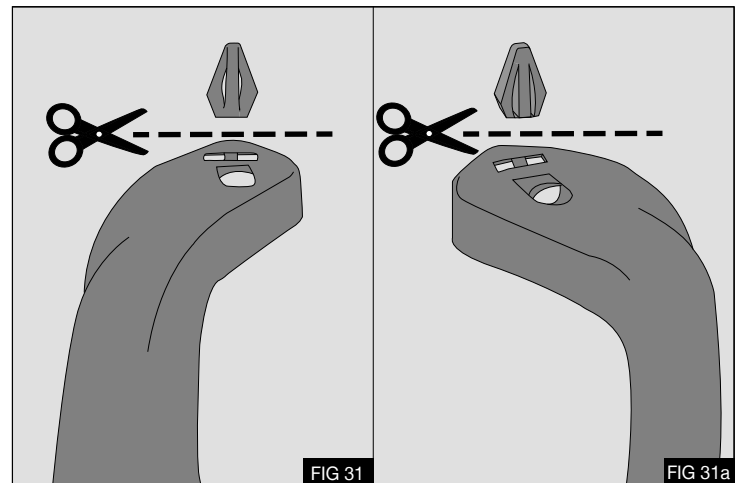
**Note:** During installation take care to align the radiator lower mount feet into the panel (E)



13. Position lower coolant hose between hose guard (25) and radiator cowl - Fig 30



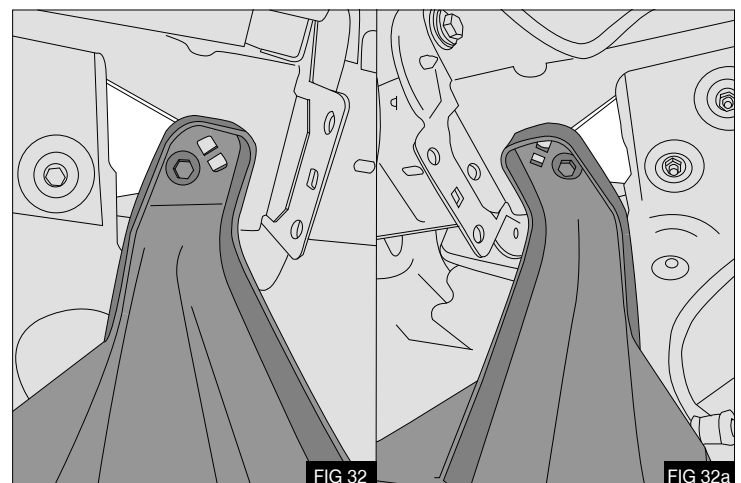
14. Modify plastic guard (B) by removing the location tabs - Fig 31 & 31a



15. Re-fit plastic guard (B) and secure to threaded holes using original fasteners - Fig 32 & 32a
16. Refit all parts previously removed.

#### POST INSTALLATION

1. Before starting the engine check all the installed parts and ensure that the belt is installed correctly.
2. Run the unit for at least ten minutes, then check the whole mounting assembly and previously removed parts. Attach the supplied warning label onto a suitable location.



(EN)

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