



Techni
ENGINEERING SOLUTIONS

CITROEN, PEUGEOT
RELAY, JUMPER, BOXER
2.2 HDI -110/130/150

CODE / CODICE: 0500.7752

COMPRESSOR / COMPRESSEUR / KOMPRESOR
/ COMPRESSORE / COMPRESOR :

SELTEC: TM13 / 15 / 16

QUE: QP13 / 15 / 16

SANDEN: SD7H15

FITTING INSTRUCTIONS

EINBAUANLEITUNGEN

INSTRUCTIONS POUR LE MONTAGE

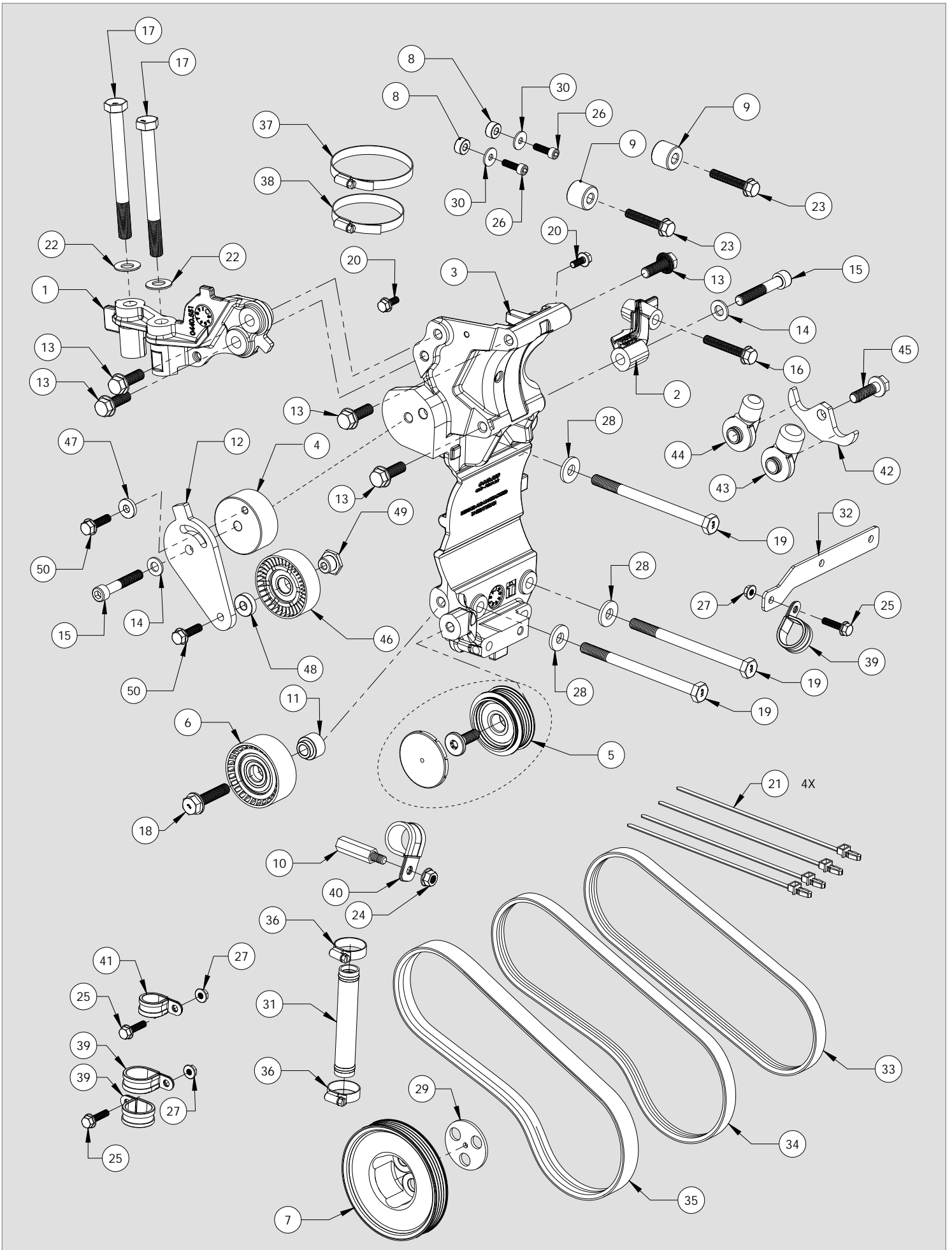
ISTRUZIONI DI MONTAGGIO

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	0440.5512	Front Support Bracket PUMA 2.2 (Peug / Cit)	1	
2	0440.5521	Rear Support Bracket PUMA 2.2 AC	1	
3	0441.5501	CMB Assy PUMA 2.2 AC	1	
4	2803.6141	Adjuster Base	1	
5	1700.5351	4PK Idle Pulley Ø60 (Included Cap & Bolt)	1	
6	1700.5291	Idle Pulley 65 x 26 (Inc Bolt)	1	
7	1701.5431	Crankshaft Drive Pulley PUMA 2.2 FWD AC Ø116mm OB	1	
8	2803.6101	Spacer - Nylon OD 15 ID 6.3 L7.5	2	
9	2803.6091	Spacer Ø24 L20 Ø9	2	
10	2803.5811	Threaded Pillar M8 x 40 Male female	1	
11	2803.6071	Idle pulley spacer Ø23 L15 Ø10.5	1	
12	3020.6461	Adjuster Plate	1	
13	2705.0491	Hex flange bolt Durlok - M10 x 30 : 1.50 - 12.9	5	
14	2809.0011	Washer M10 Flat DIN 125 - A 10.5	2	
15	2705.5051	Hex socket head cap screw M10 x 60 : 1.50 - 12.9	2	
16	2704.0101	Hex flange bolt - M8 x 50 : 1.25 - 10.9	1	
17	2706.5081	Hex Bolt M12x130 : 1.25 - 10.9	2	
18	2705.0401	Hex flange bolt - M10 x 45 : 1.50 - 10.9	1	
19	2705.5381	Hex Bolt M10x140 : 1.5 -10.9	3	
20	2702.0131	Hex flange bolt Durlok - M6 x 16 : 1.00 - 12.9	2	
21	2763.0071	Cable Tie 5 x 200 white - arrow head	4	
22	2810.5001	Washer - M12 DIN - 2093A	2	
23	2704.0161	Hex flange bolt Durlok - M8 x 45 : 1.25 - 12.9	2	
24	2734.0021	Durlok Hexagon Flange Nut - M8 : 1.25	1	
25	2702.0111	Hex flange bolt Durlok - M6 x 25 : 1.00 - 12.9	3	
26	2717.5011	Hex Socket Cap Screw M6x20 : 1	2	
27	2732.0041	Hexagon flange nut Durlok - M6 : 1.00	3	
28	2803.0273	Washer - 25 x 10.5 x 3	3	
29	2803.5263	Crankshaft Pulley Spacer - SMF Cranshaft Only	1	
30	2806.0501	M6 Penny Washer	2	
31	1494.0041	Hose Joiner Ø19 L110mm	1	
32	3020.6431	Hose support plate	1	
33	0820.7481	Belt - Poly Groove 4PK 922 Elast	1	
34	0820.7511	Belt - Poly Groove 4PK 1290	1	
35	0820.1101	Belt - Poly Groove 6PK 1685	1	
36	1537.1041	Hose Clamp 20-32	2	
37	1537.1061	Hose Clamp - 60 - 80	1	
38	1537.1051	Hose Clamp - 50 - 70	1	
39	2771.1041	P Clip 25mm	3	
40	2771.1081	P Clip 25mm M8 Fixing	1	
41	2771.1071	P Clip 21mm	1	
42	3020.6141	Manifold pipe clamp C	1	
43	0426.5032	Compressor Fitting - Suction 7/8 -14 Type B	1	
44	0426.5042	Compressor Fitting - Discharge 3/4 -16- Type B	1	
45	2705.5301	Hex Flange Bolt -M10 x 35 : 1.50 -8.8	1	
46	1700.5211	Back Idle Pulley	1	
47	2808.5001	Washer M8 Flat DIN 7349 OD21 x ID8.4 x L4	1	
48	2803.6131	Spacer 24 OD x 9 ID x L7.5	1	
49	2803.5961	Pulley nut 24mm A/F	1	
50	2704.0091	Hex flange bolt Durlok - M8 x 30 : 1.25 - 12.9	2	

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

SELTEC	TM-13 HS	TM-15 HS	TM-16 HS
Comp No	0381.0202	0381.0002	0381.0312
Valeo No.	488-45120	488-55120	488-46134
Mounting	Ear	Ear	Ear
Rotor	8PV	8PV	8PV
GL	46.55mm	46.55mm	46.55mm
Armature	3E	3E	3E
Diameter	123	123	123
Voltage	12	12	12
Orientation	V	V	V
Fitting	3/4 x 7/8	3/4 x 7/8	3/4 x 7/8
Manifold	Bolt	Bolt	Bolt

SANDEN	-	-	SD7H16
Comp No	-	-	0370.0081
Sanden No.	-	-	8256
Mounting	-	-	Ear
Rotor	-	-	8PV
GL	-	-	46.55mm
Armature	-	-	SL
Diameter	-	-	119
Voltage	-	-	12
Orientation	-	-	-
Fitting	-	-	3/4 x 7/8
Manifold	-	-	Bolt

QUE	QP-13 HS	QP-15 HS	QP-16 HS
Comp No	0391.0202	0391.0002	0391.0312
Que No.	QP13-1302	QP15-1171	QP16-1581
Mounting	Ear	Ear	Ear
Rotor	8PV	8PV	8PV
GL	46.55mm	46.55mm	46.55mm
Armature	3E	3E	3E
Diameter	123	123	123
Voltage	12	12	12
Orientation	V	V	V
Fitting	3/4 x 7/8	3/4 x 7/8	3/4 x 7/8
Manifold	Bolt	Bolt	Bolt

NOTES

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.

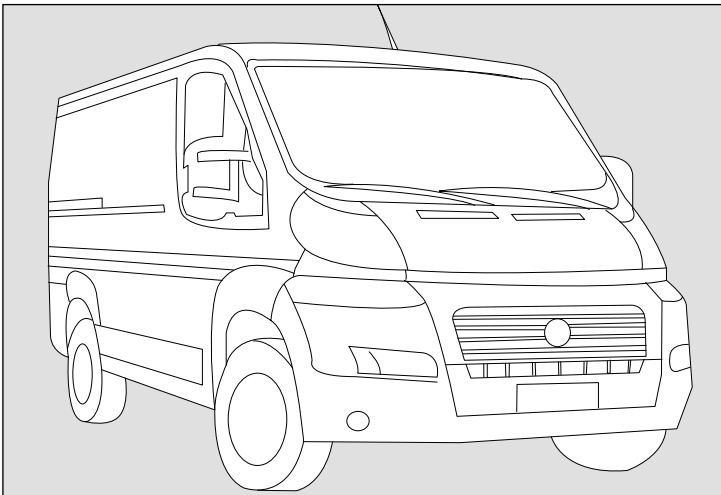
VALORI STANDARD DI SERRAGGIO PER DISPOSITIVI DI FISSAGGIO

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	Citroen, Peugeot
Model	Relay, Jumper, Boxer
Model Type	110 / 130 / 150
Engine	PUMA 2.2 HDi -110/130/150
Engine Details	Euro 5b+ (stg V), Euro 6 (HDT Stg VI)
Year	04.2014>
Chassis Type.	-
LHD	YES
RHD	YES
PAS	YES
A/C	YES
Voltage	12v

KIT DETAILS

Kit Part Number	0500.7752
Description	Speed Reduction Kit
Compressor RPM	3410 @ Max engine power output
Fitting Time	240 Minutes
Suction Fitting	90°
Discharge Fitting	90°
Belt Type	6PK 1685 / 4PK 1290 / 4PK922
Belt Part Number	0820.1101 / 0820.7511 / 0820.7481

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

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

1. Disconnect the battery negative terminal
2. Remove under shield (A) - Fig 1
3. Remove head lights (B) 2x fasteners each- slide to centre of vehicle to remove. - Fig 2
4. Remove front grill (C) 10x fasteners. - Fig 2.
5. Remove front bumper (D) 27x fasteners. - Fig 2

Note: Note position of different fasteners holding the bumper to assist re- assembly.

6. Recover air conditioning system gas.
7. Disconnect AC (E) hoses from condenser (cover ends). - Fig 3
8. Drain coolant from radiator (keep for re-use).
9. Disconnect electrical harness from engine fans and shroud (replacement ties provided in kit).
10. Disconnect radiator hoses.

11. Disconnect low pressure charge ducts (F) at points shown (replacement hose clips are provided in the kit). - Fig.4

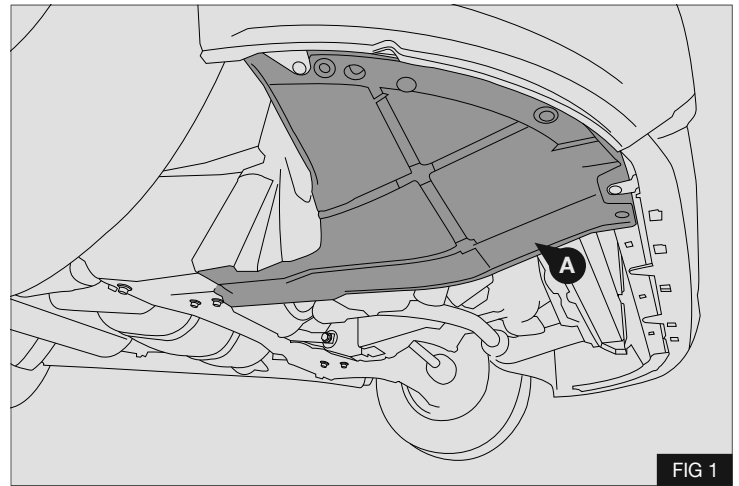


FIG 1

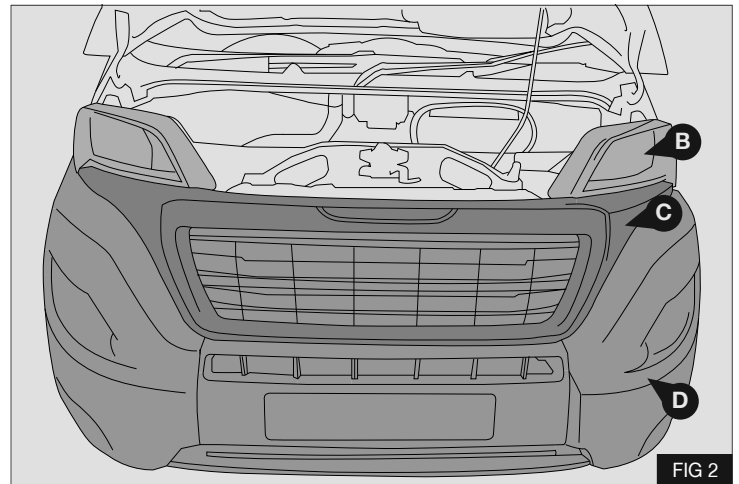


FIG 2

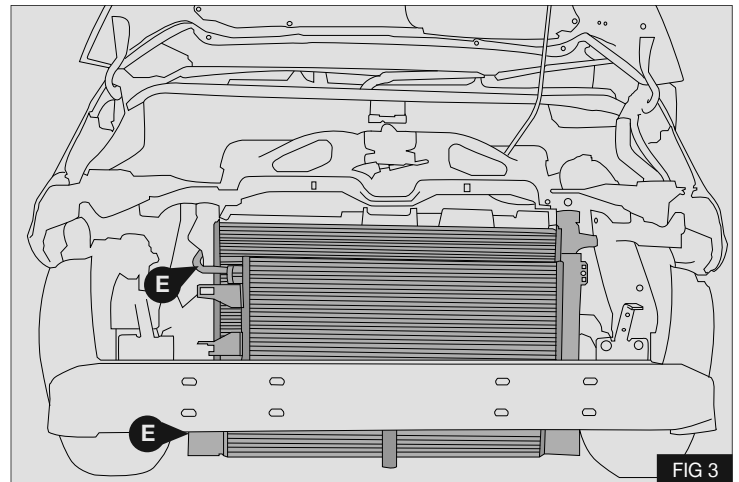


FIG 3

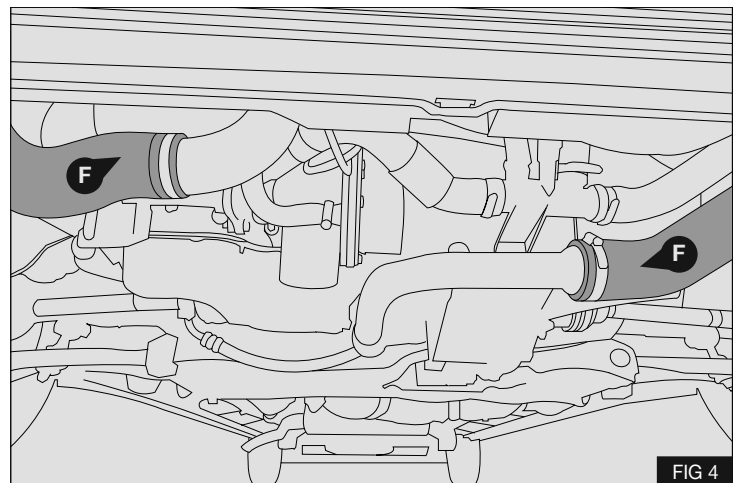
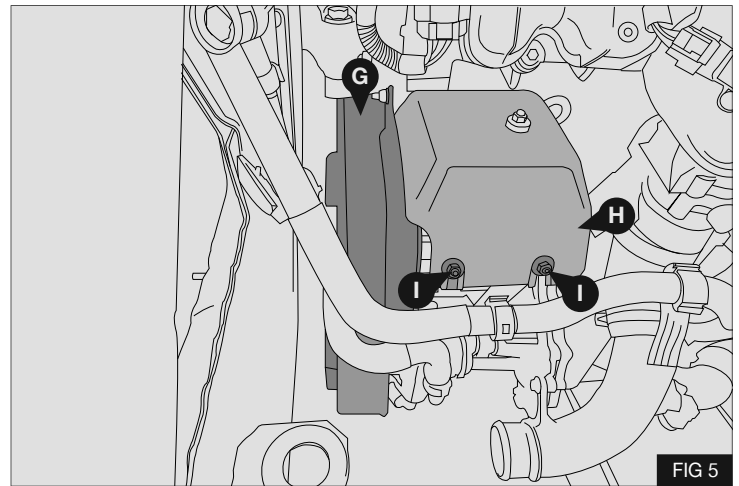


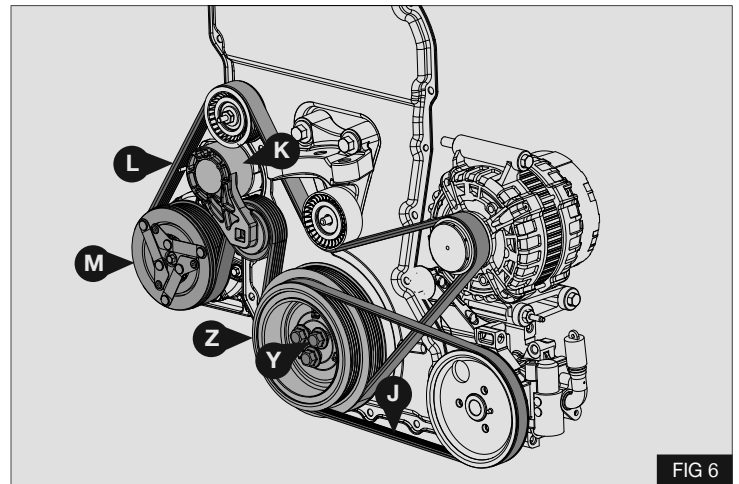
FIG 4

12. Remove and discard engine belts cover **G** and alternator cover **H** retain 2xM6 nuts **I**. - Fig 5

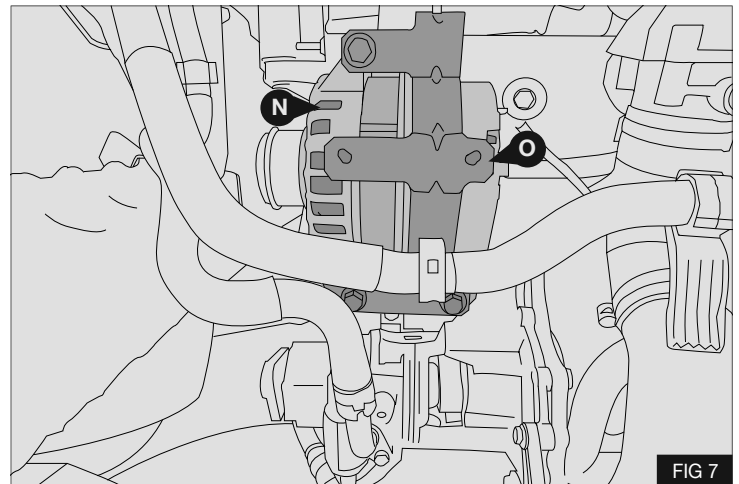


13. Remove PAS drive belt **J**. - Fig 6

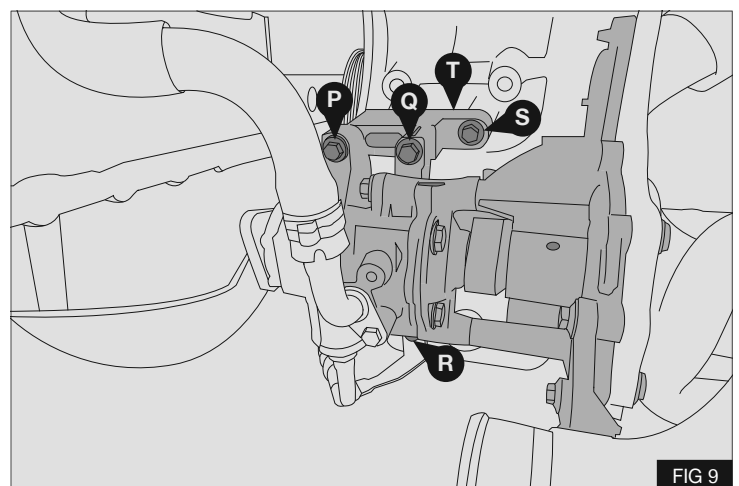
14. Release tension and lock automatic tensioner **K** using a $\varnothing 4$ mm pin. Remove and discard alternator / AC drive belt **L** to enable this operation loosen the air-conditioning compressor **M** and automatic tensioner **K**. - Fig 6



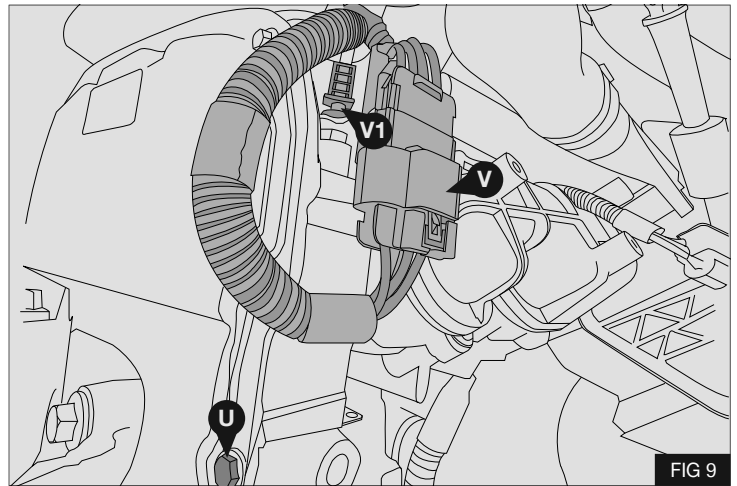
15. Disconnect wiring and remove alternator **N** and hose support **O**. - Fig 7



16. Remove PAS pump upper fixing bolts **P** and **Q**, Slacken 2x PAS lower fixing bolts **R**. Remove bolt **S** and discard PAS upper mounting **T**. - Fig 8



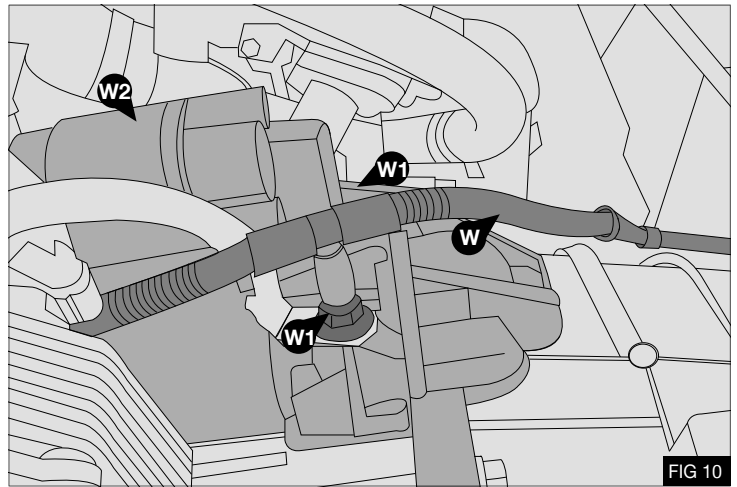
17. Remove nut (V1) securing wiring harness. The bracket (V) will secure to the compressor mount bracket later in the installation. Remove and discard stud (U). - Fig 9
18. Install M6x16 bolt (20) into hole previously occupied by stud (U).
19. Torque bolt (16) to 10 Nm / 7.5Lbft



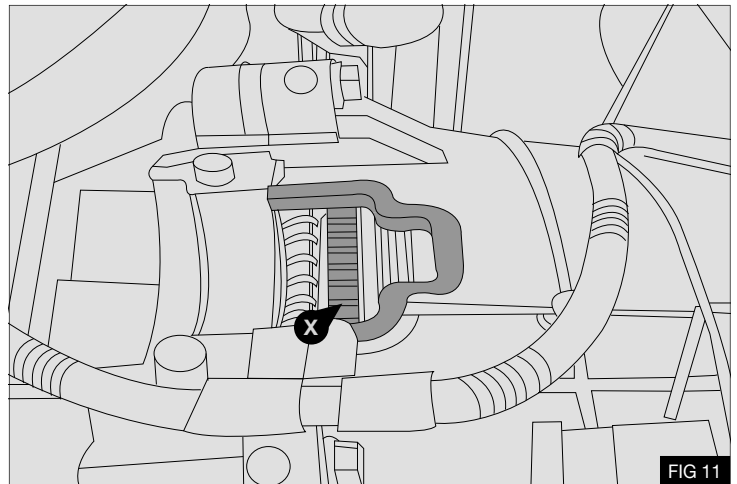
DRIVE PULLEY INSTALLATION

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

1. Temporarily remove the cable (W) to gain access to the starter motor bolts (W1). - Fig 10
2. Temporarily remove the two bolts (W1) securing the starter motor (W2). - Fig 10



3. Move the starter motor to gain access to the flywheel ring gear (X). - Fig 11
4. Using a suitable tool lock the flywheel ring gear at point (X). - Fig 11

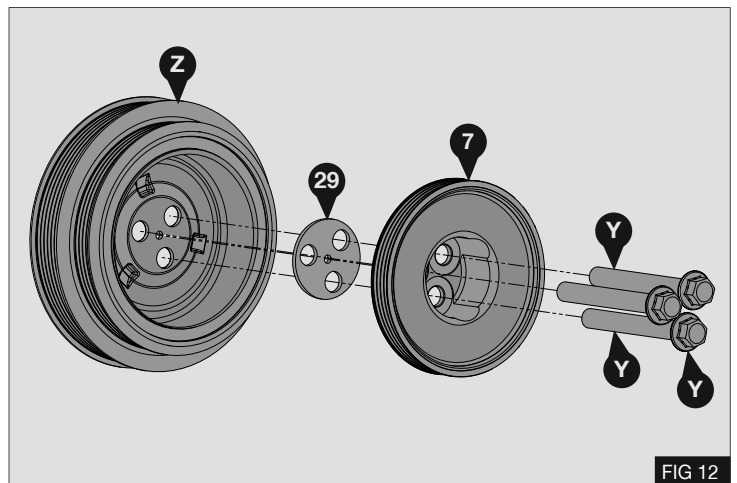


Warning: take care not to damage the flywheel Reluctor ring

5. Remove the 3x bolts (Y) and remove the pulley (Z) - Fig 6

6. Assemble crankshaft pulley (7) onto original pulley (Z) with spacer (29) - Fig 12

Caution: Spacer (29) must be installed to provide correct belt alignment. If the vehicle crank pulley is different to the one shown in the image please contact your mount kit supplier.



7. Install pulley assembly to vehicle and secure using original bolts (Y). Fig 13

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

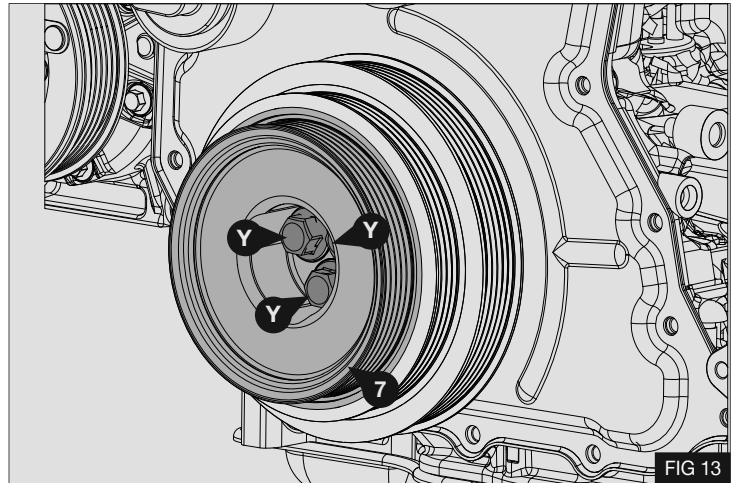


FIG 13

8. Lock the starter ring gear and tighten the bolts (Y) in the following sequence. - Fig 14

Stage 1- Torque bolts (Y) to 45Nm / 33.2 Lbft
Stage 2- Tighten each bolt 120 Degrees.

9. Re-fit the starter motor (W2) with bolts (W1) - Fig 10
10. Torque bolts (W1) to 35Nm / 25.8Lbft

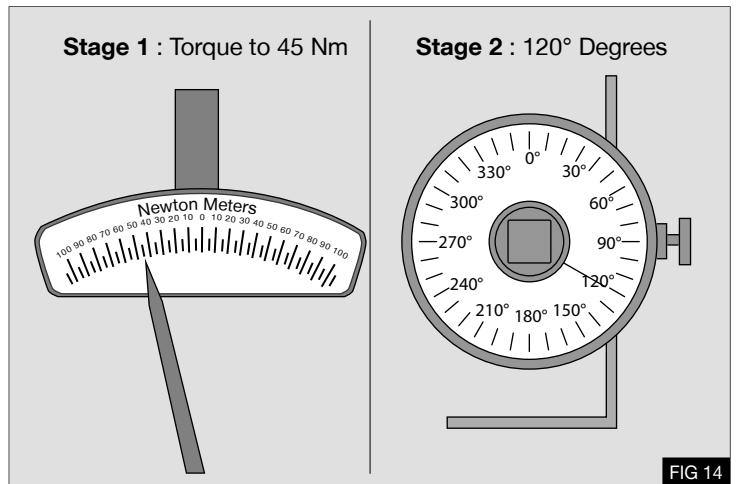


FIG 14

MOUNT BRACKET INSTALLATION

- Assemble pulley (5) onto bracket (3) using Bolt (5a) and pulley cap (5b). Fit idle pulley (6) using M10x35 bolt (18) and spacer (11) - Fig 15
- Torque bolts (5a) and (18) to 44.7Nm / 33Lbft
- Insert bracket assembly (3) (from above) between the PAS pump and the engine block. Ensure locating dowel is correctly seated into the engine block, secure lower part of bracket using the original fasteners (P) (M8x90), (Q) (M8x50) and (S) (M8x45) - **do not tighten at this stage.** - Fig 16

CAUTION: use the correct bolts in the correct holes.

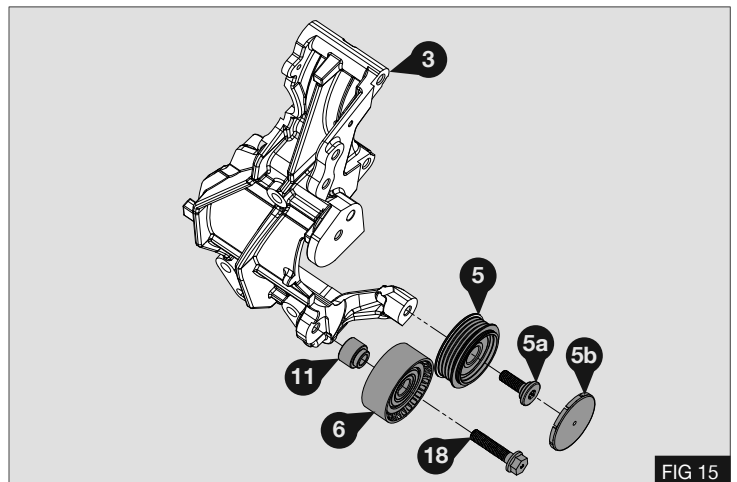


FIG 15

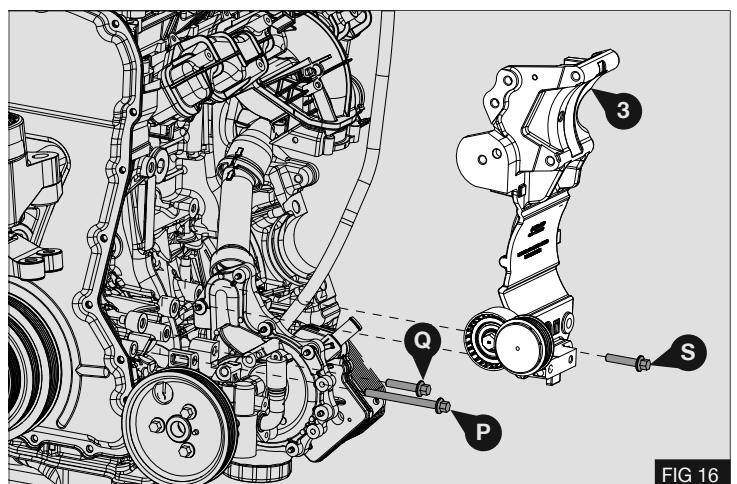


FIG 16

- Modify hose support (O) by removing the section indicated.
- Fig 17

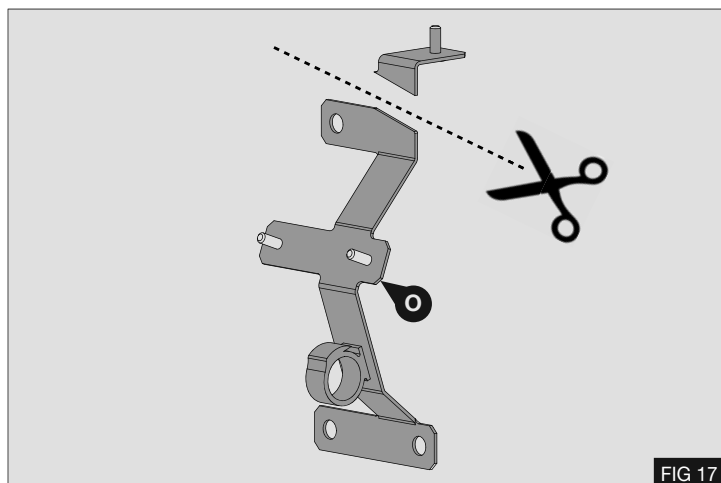


FIG 17

- Fit the alternator (N) with modified hose support (O) using 3x M10x140 bolts (19) with washers (28) - Fig 18

Note: Insert bolts (19) into the alternator (N) prior to installing.

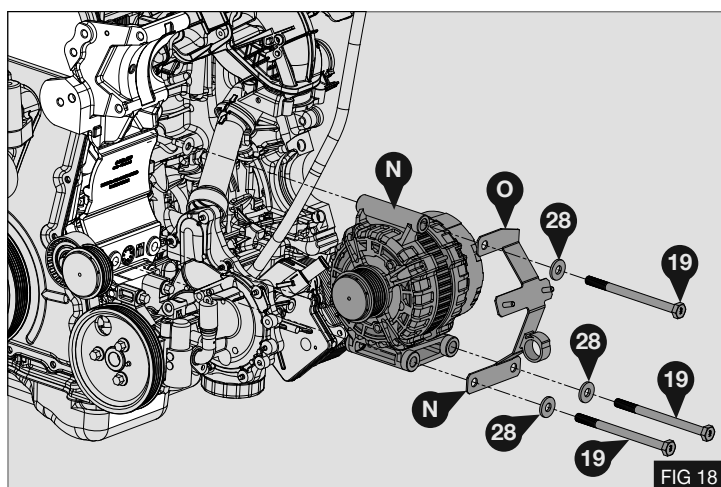


FIG 18

Torque bolts in the following order:-

Torque Bolt (19) to 65Nm / 48 Lbft

Torque bolts (P) (Q) (S) to 23Nm / 17 Lbft - Fig 16

- Install drive belt (35) - Fig 19
- Tighten the tensioner mounting bolts (K1) and AC compressor (M1) bolts.
- Torque bolts (K1) & (M1) to 25Nm / 18.4Lbft
- Release automatic belt tensioner (K) - Fig 19
- Fit PAS belt (33) - Fig 19

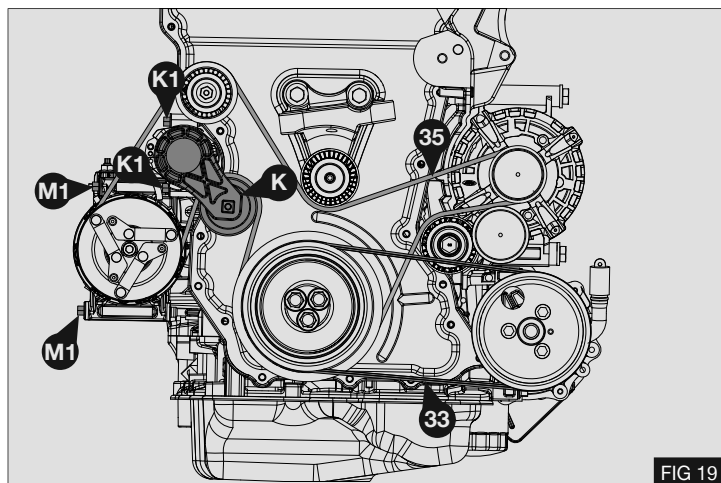


FIG 19

FRONT AND REAR SUPPORTS

- Remove and discard 2x engine mount bolts (A1) - Fig 20

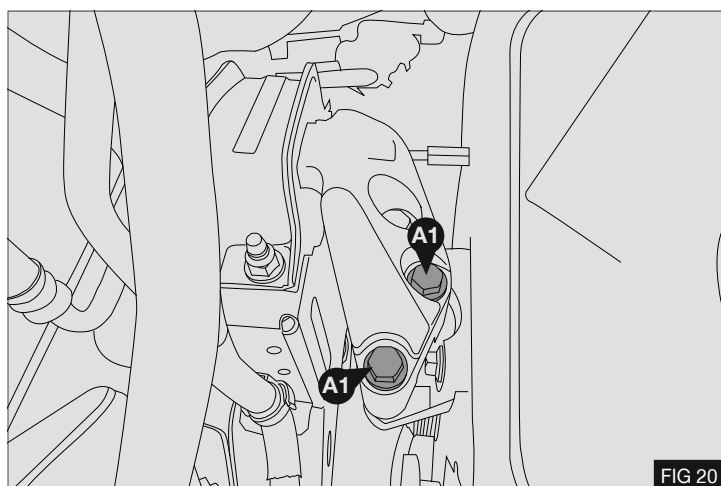
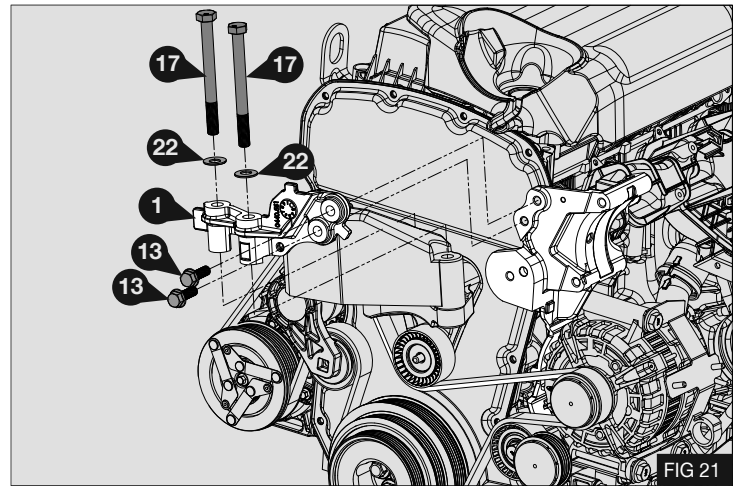


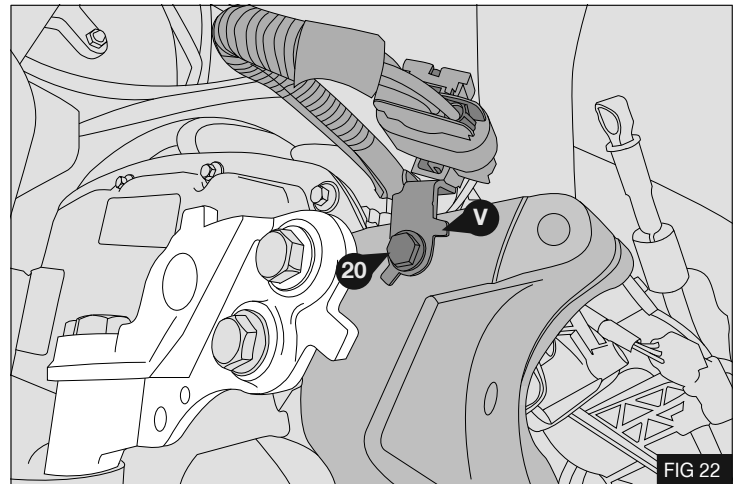
FIG 20

2. Install front support (1) using 2x M12x130 bolts (17) with washers (22) and 2x M10x30 bolts (13) - Fig 21

Torque bolts (17) to 115Nm / 85Lbft
Torque bolts (13) to 58Nm / 42.8Lbft

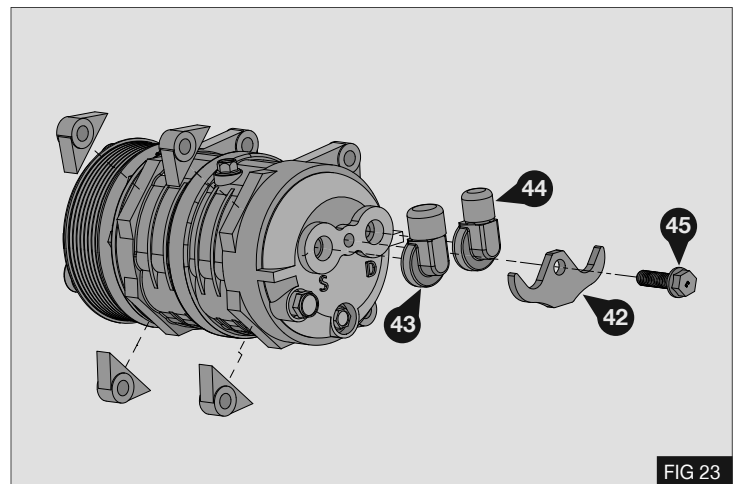


3. Secure wiring harness bracket (V) to the hole in bracket using M6x16 bolt (20) - Fig 22

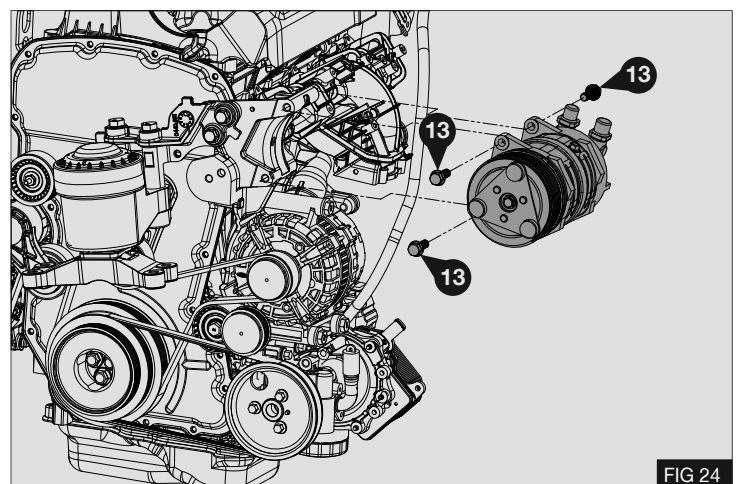


4. Modify refrigerant compressor by carefully removing the mounting lugs indicated. - Fig 23
5. Fit the supplied compressor manifold fittings (43) and (44) using Clamp (42) and M10x35 bolt (45) - Fig 23

Torque bolt (45) to 45Nm / 33Lbft



6. Fit the prepared compressor to the main bracket (3) using 3x M10x30 bolts (13). Do not fully tighten bolts at this stage. - Fig 24



7. Install the rear support (2) using 1 x M8x50 Bolt (16) and 1x M10x60 Cap head bolt (15) with flat washer (14). - Fig 25

Torque bolts (13) to 58Nm / 42.8Lbft. - Fig 24

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

Torque bolt (15) to 58Nm / 42.8Lbft.
Torque bolt (16) to 29Nm / 21.4Lbft.

8. Re- connect the alternator harness.

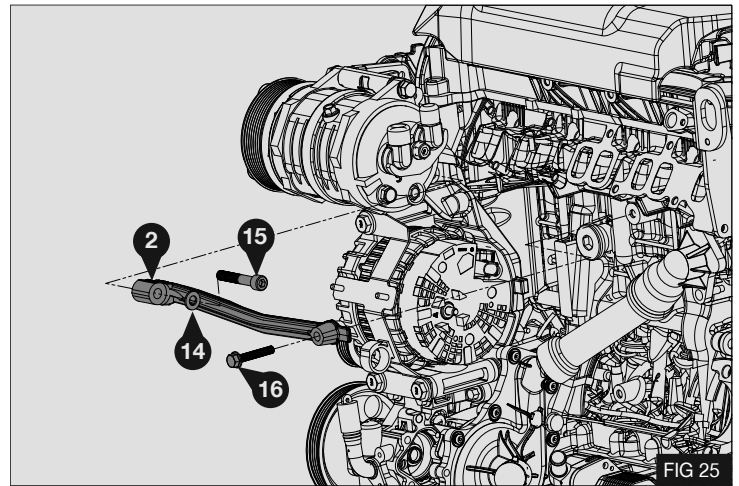


FIG 25

9. Assemble the pulley (46) onto Adjuster plate (12) with M8 x 30 bolt (50) Spacer (48) and Pulley nut (49). - Fig 25

Torque bolt (50) to 29Nm / 21.4 lb.ft

10. Fit adjuster base (4) with plate (12) to bracket (3) secure using M10 x 60 Cap head bolt (15) and Washer (14). During this operation align dowel in adjuster base (4) with the corresponding hole in bracket (3). Install M8 x 30 bolt (50) with M8 washer (47) through the slot in adjuster plate (12) and into adjuster base (4). - Fig 25

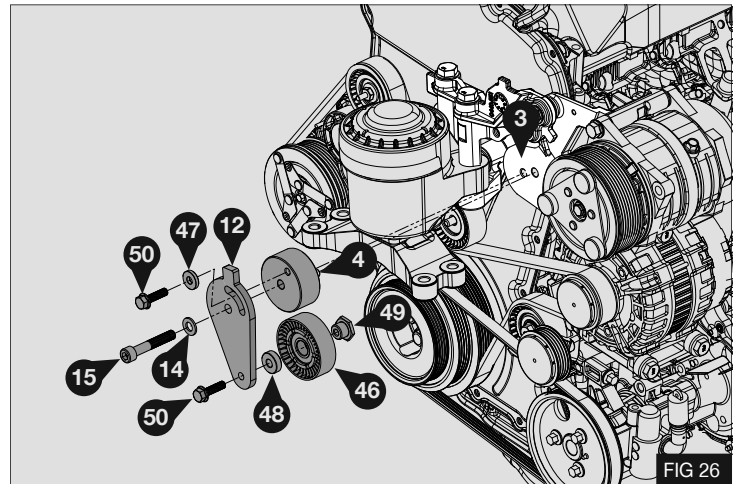


FIG 26

11. Install the compressor belt (34). Fig 27.

- A - Crankshaft Pulley
- B - Tensioner Pulley
- C - Compressor Pulley
- D - Idle pulley

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

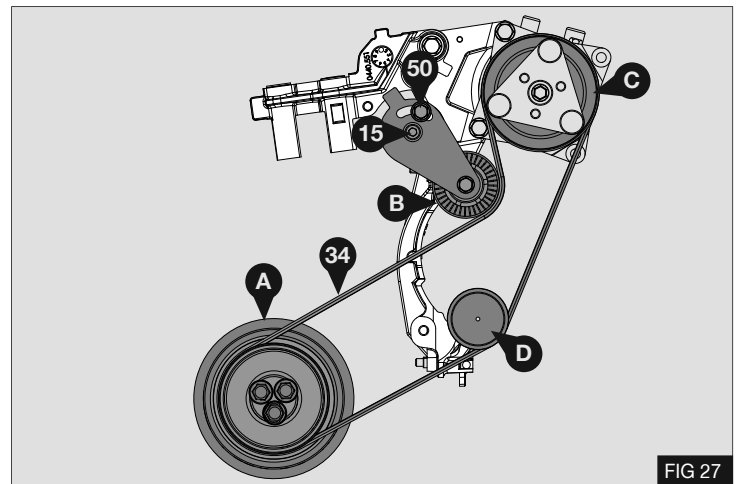


FIG 27

12. Ensure the belt is positioned into the correct grooves. - Fig 28

TM / QUE / SANDEN: Compressor must be PV8 with a G/L of 46.55 see applications table on page 6.

13. Tension drive belt (34), once correct tension is achieved (see table) tighten Cap head bolt (15) and M8 Bolt (50). - Fig 26

Torque bolt (15) to 58Nm / 42.8 lb.ft

Torque bolt (50) to 29Nm / 21.4 lb.ft

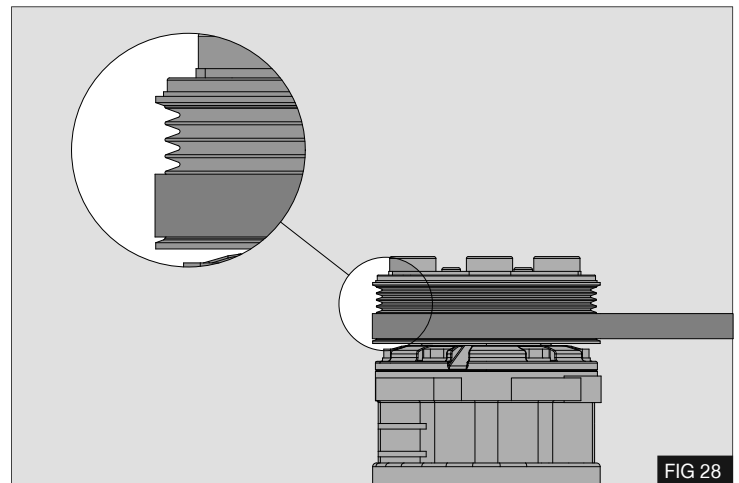
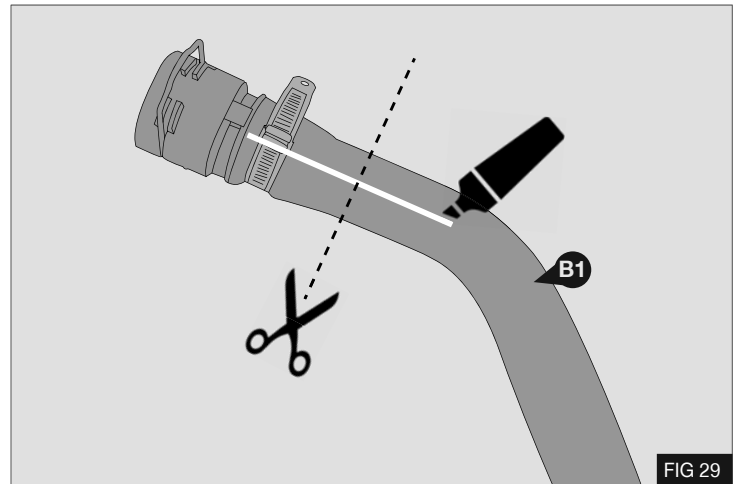


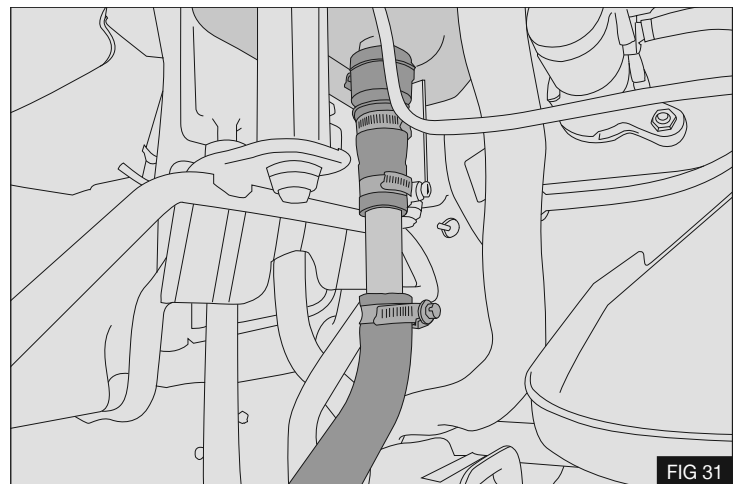
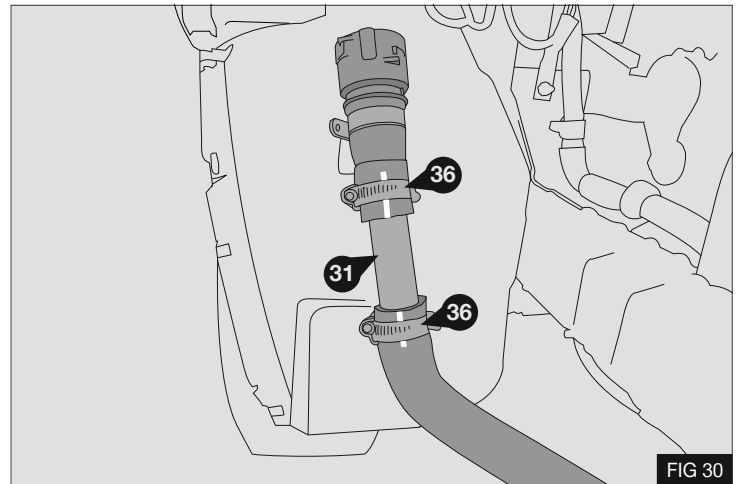
FIG 28

HOSE MODIFICATIONS

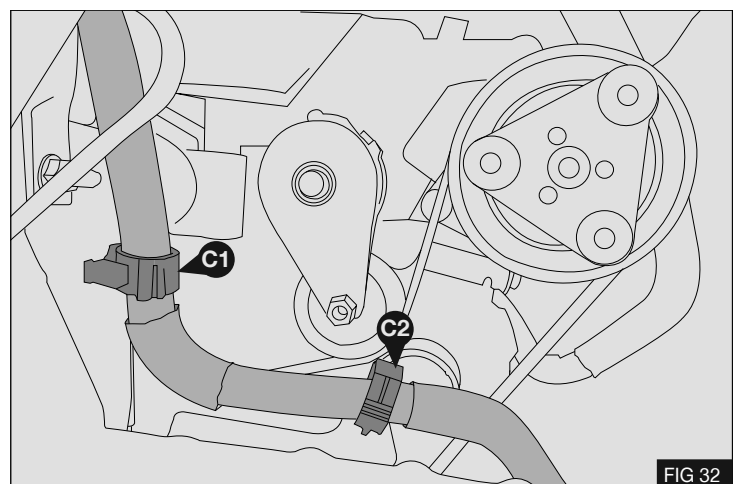
1. Disconnect hose (B1) from expansion tank. - Fig 29
2. Mark a line for orientation. - Fig 29
3. Cut hose at point shown. - Fig 29
4. Fit hose extension (31) with hose clamps (36) using line for orientation. - Fig 30



5. Re- connect modified hose to expansion tank. - Fig 31



6. Remove and discard plastic hose clamps (C1) and (C2) - Fig 32



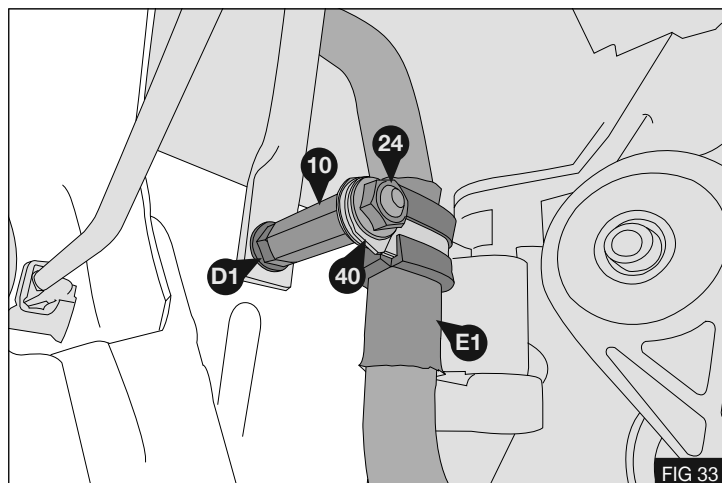
7. Fit threaded pillar (10) onto original stud (D1) - Fig 33

Note: Do not remove the existing nut

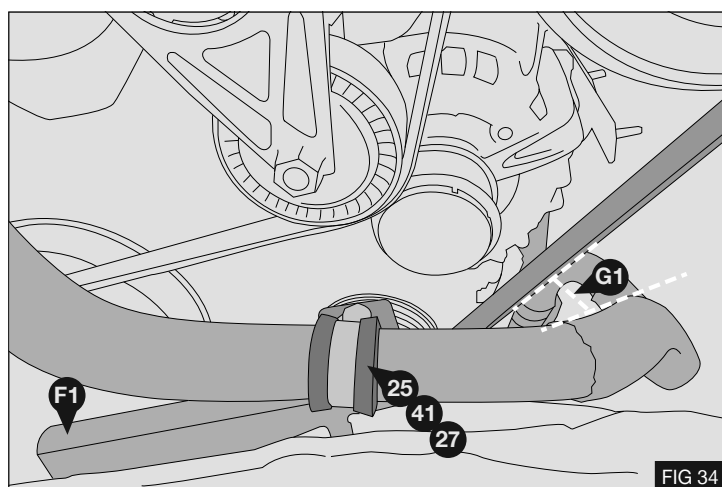
Torque threaded pillar (10) to 20Nm / 14.7Lbft

8. Re position hose protection (E1) and secure hose to threaded pillar (10) using P clip (40) and M8 nut (24) Fig 33

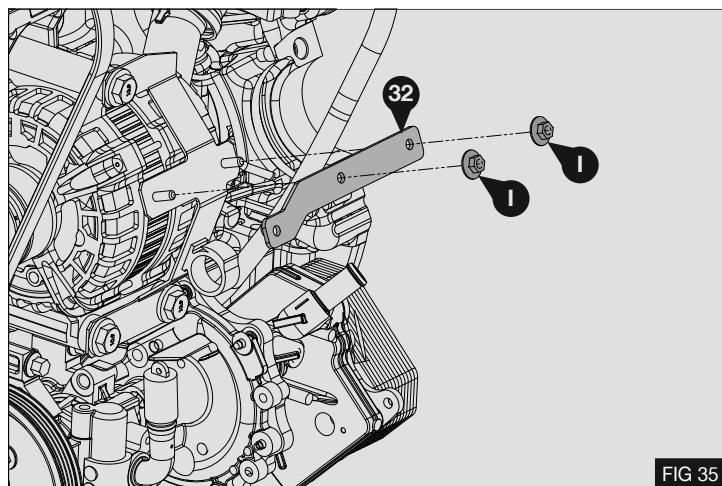
Torque nut (24) to 20Nm / 14.7Lbft



9. Fit p clip (41) to existing bracket (F1) using M6x25 bolt (25) with M6 nut (27) as shown and position to obtain maximum clearance to belt at point (G1) - Fig 34

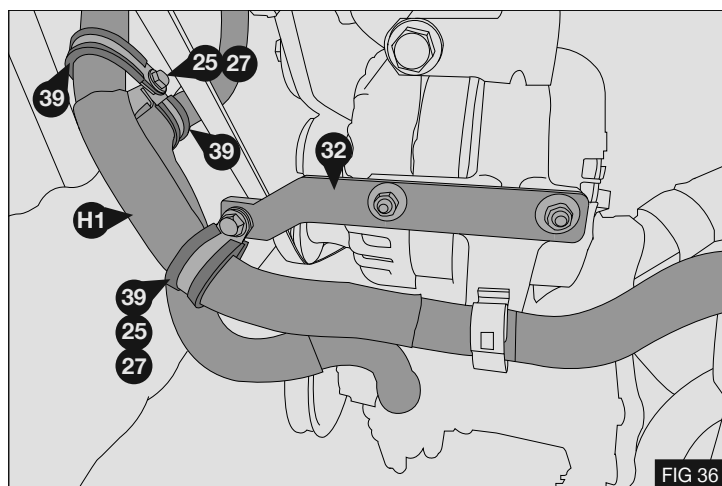


10. Fit hose support plate (32) using 2x M6 nuts (I) - Fig 35



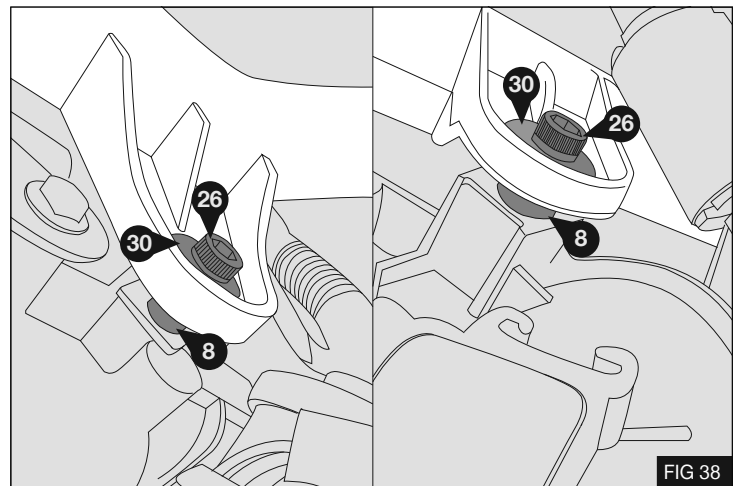
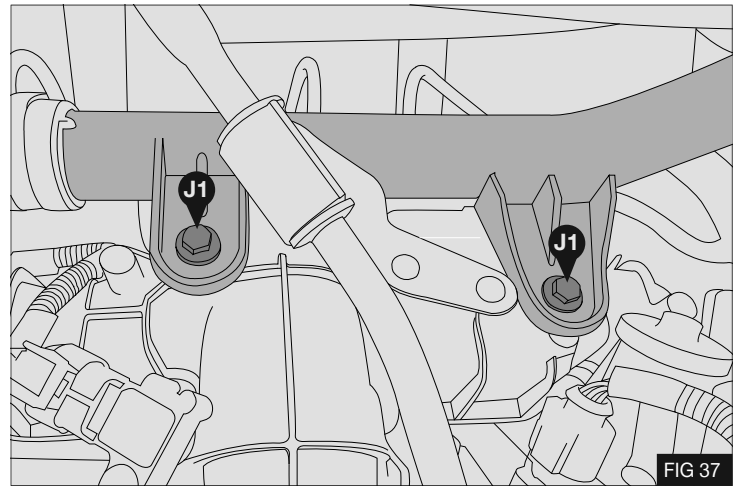
11. Secure coolant hose (H1) to plate (32) using P clip (39) with M6 nut (27) and M6x25 bolt (25). Position hose into original plastic clip. - Fig 36

12. Join hoses at point shown using 2x P clips (39) with M6x25 bolt (25) and M6 nut (27) - Fig 36

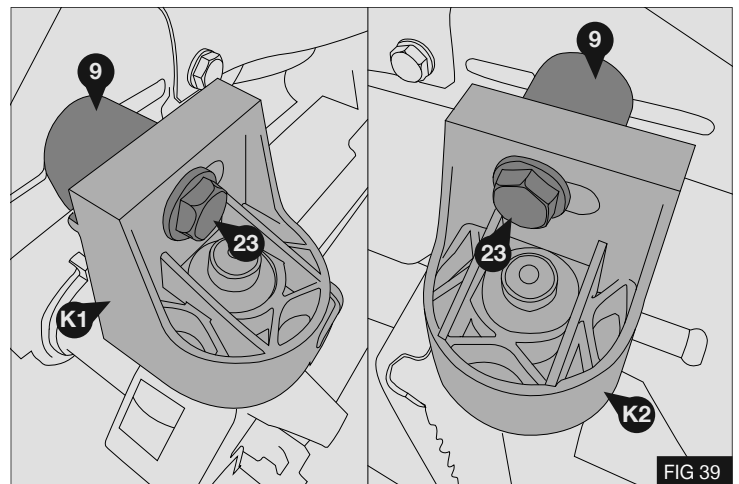


13. Remove and discard fasteners (J1) securing upper coolant pipe. Install 2x spacers (8) with 2x M6 x20 cap head bolts (26) and Plain washers (30) - Figs 37 & 38

14. Re- fit cooling pack using cable ties (21) provided for securing fan harness.

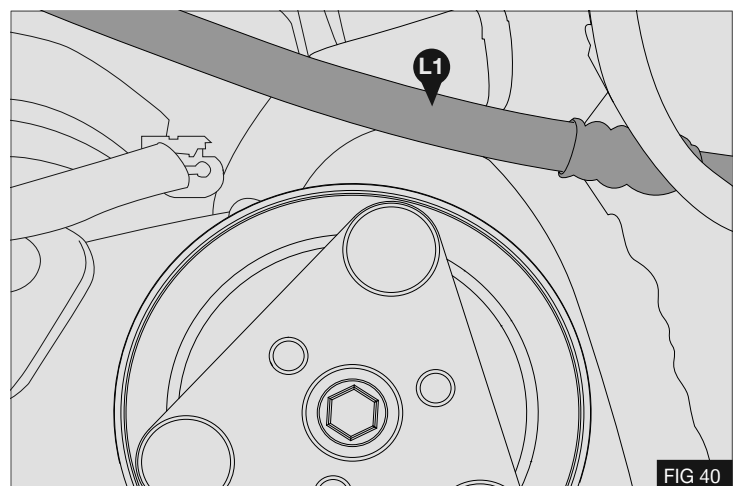


15. Insert spacers (9) between cooling pack upper support (K1), (K2) and slam panel secure using 2x M8x45 bolts (23) - Fig 39



16. Re- orientate the discharge hose from condenser (L1) to improve clearance to compressor clutch. - Fig 40

17. Re fit all parts previously removed, re connect intercooler hoses using hose clamps (37) and (38)



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.

(EN)

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