PREVOST

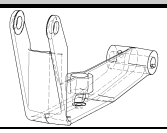
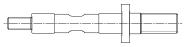
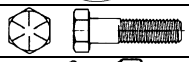
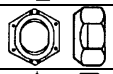
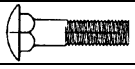
Instruction Sheet IS-04106B

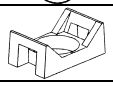
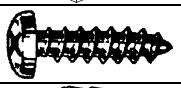
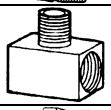
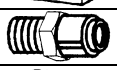
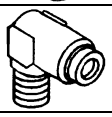
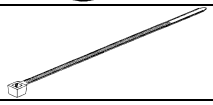
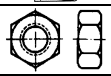
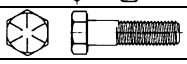
CLUTCH AND RADIATOR FAN TRANSFER MECHANISM MOUNTING BASE REPLACEMENT

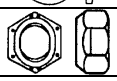
REVISION : B
A : KIT #052665 HAS BEEN MODIFIED
B : KIT #052665 MODIFIED – 500177 added (3X) – Do not use bolts supplied with 550879

MATERIAL

Kit #052665 includes the following parts:

Part No.	Description	Identification	Qty
052624	Arm, Belt Tensioner		1
052670	Pivot, Belt Tensioner Arm		1
500270	Washer, Flat SS .406 X 1 X .063		1
052676	Roller, Idler Assembly		1
983296	Screw, Cap Hexagonal Head, ZP M20X90 G10.9		1
5001252	Nut, Hexagonal Stover M20-2.5		1
5001628	Nut, Hexagonal		1
052691	Plate, Reinforcement Clutch Support		1
052584	Pulley, Gearbox		1
052649	Mounting Base, Radiator Fan Transfer Mechanism (500 HP Fan Drive)		1
052652	Plate, Support		1
052655	Attachment, Spring		1
052667	Hose, 1524 mm long		1
142013	Bracket, Air Pressure Regulator		1
500948	Screw, Thread- cutting Hex Head ZP ¼-20 X 1		2
5001208	Bolt, Carriage ZP M8X30		3

500218	Washer, Split-Lock 3/8 X 11/16 X 3/32		1
500449	Washer, Flat SS 5/8 X 1½		4
500734	Nut, Hexagonal Jam ZP ¾-16		1
500832	Washer, Flat 13/32 X 13/16 X 1/16		1
500874	Washer, Flat ZP 21/64 X 43/64 X 1/16		3
500897	Washer, Flat 7/16 X 1 X 5/64		4
504013	Mount, Cable Tie		4
500642	Screw, Tapping Binding Head, Phillips ZP #10 X ¾		4
501027	Connector, Male Tube ¼ FL X ¼ NPT		1
501808	Elbow, Male 45° ¼ tube 45° FL X 1/8 NPT		1
501036	Elbow, Male 90° ¼ tube 45° FL X 1/8 NPT		1
501894	Tee, Male Branch ¼ NPT		1
641332	Connector, Male ¼ tube X 1/8 NPT/push-in tube		1
641371	Elbow, Male ¼ tube X ¼ NPT/push-in tube		1
504637	Tie, Black Cable		12
503402	Tube, Black ¼ (1 X 5 feet long)		5
502247	Spring, Compression 1¼ x 2½ x 1/8		1
502543	Nut, Hexagonal ZP M8-1¼		3
502889	Washer, Split-Lock 5/16 X ½ X 5/64		3
502917	Nut, Hexagonal Jam ¾-16 G2		1
502926	Screw, Cap Hexagonal Head 3/8-16 X 7/8 LG		1
5060071	Belt POLY V 12PK		2
507293	Bushing, Nylon 5/8 X 11/16 X 11/32 X 15/16		8
509815	Wire Clamp, Quick Mounting (Fir Tree Base)		3
550186	Key		1
550839	Clutch, Fan 500HP		1

550840	Bellows, Air 4 inch dia.	1
550879	Sleeve, Coupling	1
500177	Screw Cap Hex ZP 1/4-20X1 G8	3
630062	Isolator, Rubber Vibration	2
507347	Bushing for rubber vibration isolator	2
640488	Valve, Air Pressure Check	1
641472	Regulator, Air Pressure	1
955920	Washer, Split-Lock 17/64 X 31/64 X 1/16 	3
971083	Nut, Hexagonal Stover M10-1.5 	4
IS-04106B	Instruction Sheet	1
FI-04106B	Feuille d'instructions	1

PROCEDURE

⚠ WARNING ⚠

Park vehicle safely, apply parking brake, stop engine and set battery master switch(es) to the OFF position prior to working on the vehicle.

1. Locate the belt tensioner air pressure regulator then turn pressure releasing valve counterclockwise (clockwise for H series vehicles) to release the pressure from the air bellows. Make sure all applicable safety precautions were taken.
2. Remove the belts from gearbox and fan clutch.
3. Unfasten the bolts fixing gearbox onto mounting base then remove gearbox.
4. Remove fan drive pulley from gearbox.
5. Remove the bolts fixing the 3-inch air bellows attachment brackets which are located near the gearbox, and then put the attachment brackets aside.
6. Unfasten the fitting at the base of belt tensioner arm.
7. Unfasten the bolts fixing the fan to the clutch in order to facilitate removal of mounting base.
8. Disconnect the clutch power cable connector, note wire color coding;
   - Brown wire – Pin A
   - Blue wire – Pin B
   - Yellow and green wire – Pin C
9. Unfasten the bolts fixing the clutch onto the mounting base then remove the clutch.

⚠ WARNING ⚠

Use a loading tripod such as a gin to adequately support the radiator fan transfer mechanism mounting base while removing the supporting legs fixing bolts.

10. Remove the bolts fixing the mounting base supporting legs.
11. Using the gin, lift and remove mounting base from engine compartment.

NOTE
Clean radiator fan transfer mechanism mounting base location as required.

12. Dismount belt tensioner arm from former mounting base, keep the arm, flat washer and nut as well as grease fitting. Set parts aside.
13. Install and secure the new mounting base (052649) onto a workbench then install the belt tensioner arm pivot (052670) on the new mounting base using flat washer (500270) and nut (5001628).
14. Install the belt tensioner arm on its pivot making sure the nylon bushings (507293) are properly inserted then secure the belt tensioner arm using the flat washer and nut. Screw the grease fitting in then grease the pivot.

NOTE
You may have to clean inside the belt tensioner arm pivot hole to facilitate nylon bushing insertion.

15. Install idler roller assembly (052277) and spring attachment (052655) on the belt tensioner arm and secure them using the former bolt and nut.
16. Install 4-inch diameter air bellows (550840), and then fix it onto the belt tensioner arm using its flat washer, split-lock washer and capscrew (502926). Apply some Teflon paste on 90° elbow (501036) threads then screw elbow in the base of the air bellows.
17. Install compression spring (502247) between mounting base and spring attachment.

NOTE
In the case of XL and XLII vehicles, compression spring and its attachment will probably not be used. This is normal and was anticipated.

18. Fix gearbox onto new mounting base using split-lock washers and bolts.
19. Install pulley (052584) onto gearbox. Fix pulley coupling sleeve (550879) to mounting flange using key (550186) and 3 supplied 500177 screws (do not use the three 1 3/8” screws supplied with the coupling sleeve) referring to plays indicated in figure 3.
20. Install support plate (052652) onto fan clutch (550839) then install fan clutch onto mounting base and secure using 3 carriage bolts (5001208), flat washers (500874), split-lock washers (502889) and nuts (502543) (Refer to figure 1).

NOTE
In the case of H3 vehicles, use support plate foremost oblong holes; use rearmost oblong holes in the case of XL or XLII vehicles. This will ensure proper fan clutch positioning with reference to the radiator shroud.

21. Install reinforcement plate (052691) onto fan clutch support
22. Route clutch power cable along the mounting base as per figure 2. Fix power cable connector onto reinforcement plate bracket using 2 nylon cable ties (504637). Drill 7-mm holes in order to install quick mounting wire clamps (509815) (504637) so as to secure cable.

⚠ **CAUTION** ⚠
Make sure that enough play exists and that the cable does not run into the clutch or mounting base during clutch operation.

23. Insert the 2 rubber vibration isolators (630062) into the mounting base supporting legs then insert the 2 bushings (507347) inside the isolators.
24. Using the gin, lift the mounting base assembly in order to install it in the engine compartment.

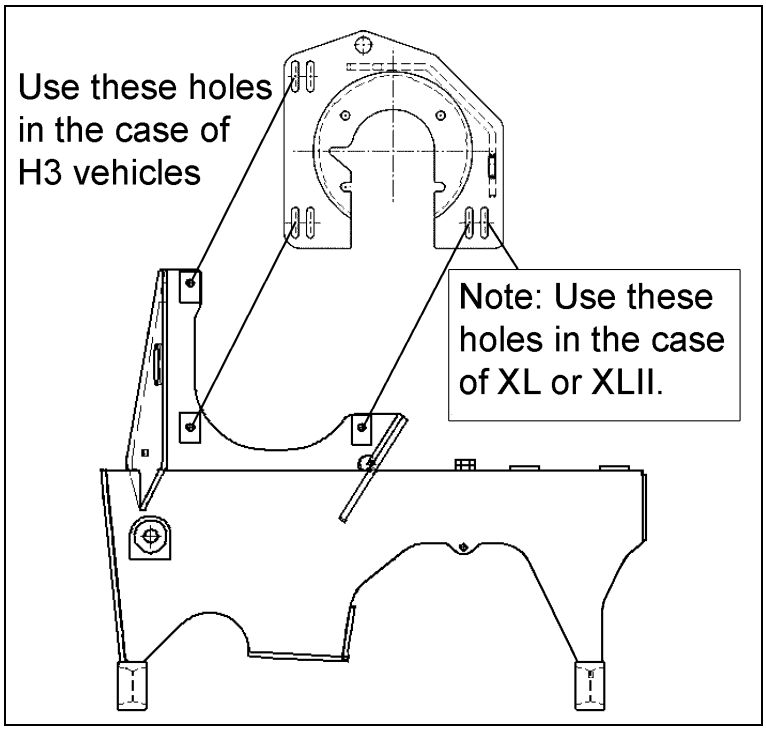


FIGURE 1

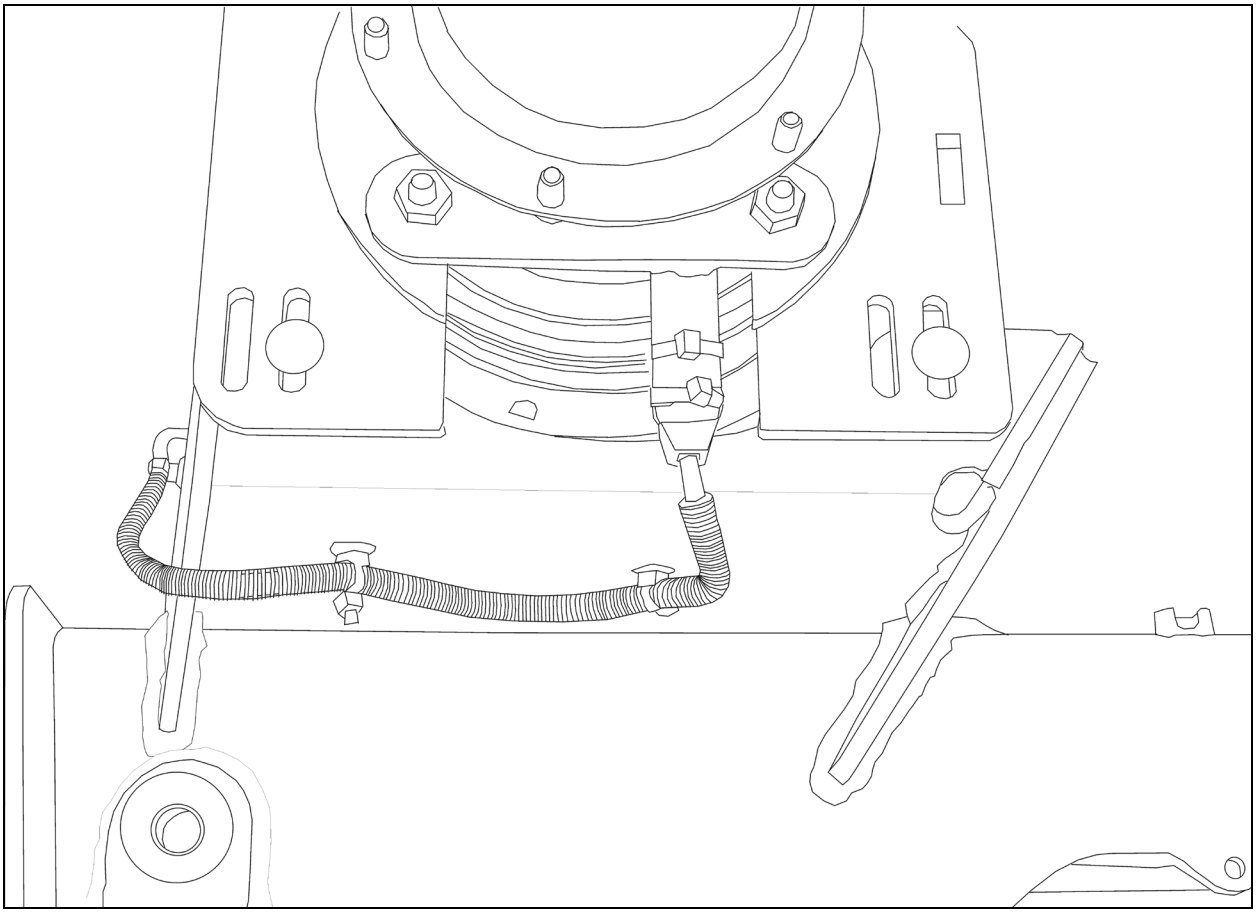


FIGURE 2

25. Use the gin to safely support the fan transfer mechanism mounting base while inserting the supporting legs fixing bolts. Install washers and tighten nuts.

26. Use a straight edge to properly align fan clutch pulley with gearbox pulley. Install belt (5060071) over fan transfer mechanism pulleys, slightly unfasten gearbox fixing bolts in order to pivot the gearbox and properly align belt on the pulleys (Refer to figure 3). Retighten fixing bolts.

NOTE
Two belts are supplied (one for spare).

27. Fix the fan onto the clutch using the supplied bolts.

⚠ CAUTION ⚠
Verify that play around fan blades is even and that blades do not touch the shroud when the clutch is in 1st or 2nd speed. Adjust the play by lifting or lowering the clutch.

28. Fix bracket (142013) of 2nd air pressure regulator (641472) using two thread cutting screws (500948). Install bracket onto rear cap interior wall (XL or XLII) or onto a cross member above the fan transfer mechanism in the case of H3 vehicles.

NOTE
2nd air pressure regulator may be installed in various places depending on equipment installed. Use supplied hose (052667) to help deciding on proper location.

29. Fix air pressure regulator onto bracket using nut (500734).

30. Unscrew existing air pressure regulator inlet fitting. Apply some Teflon paste then install a male branch T-fitting (501894) on existing regulator air inlet. Apply some Teflon paste then screw 90° male elbow push-in tube fitting (641371) into the T-fitting on the fan transfer mechanism side. Reinstall the pressure releasing valve fitting on the other side of the male branch T-fitting.

31. Depending on the chosen location for 2nd regulator, cut the appropriate length of air tubing (503402), apply some Teflon paste on the push-in tube male connector (641332) then screw it into the 2nd regulator air inlet port. Connect two push-in tube male fittings using air tubing. Apply some Teflon paste onto the air pressure check valve (640488) then fasten it to the 2nd regulator.

32. Locate 3-inch air bellows located near the gearbox, remove T-fitting installed at the base and replace it with a 45° elbow (501808). Reinstall the air bellows attachment brackets.

33. Apply some Teflon paste on male tube connector (501027) then screw it into the 2nd regulator air outlet, use hose (052667) to connect 4-inch air bellows with 2nd regulator air outlet.

34. Fix black air tubing using cable tie mounts (504013), tapping screws (500642) and nylon cable ties (504637). Fix hose (052667) using clamps and nylon cable ties (504637).

35. Reinstall belts on engine pulleys.

36. Turn belt tensioner pressure releasing valve clockwise (counterclockwise for H series vehicles) to reapply the pressure on the belts. Set 2nd regulator pressure to 35 lb/in^2.

37. Check operation of radiator fan transfer mechanism in 1st and 2nd speed.

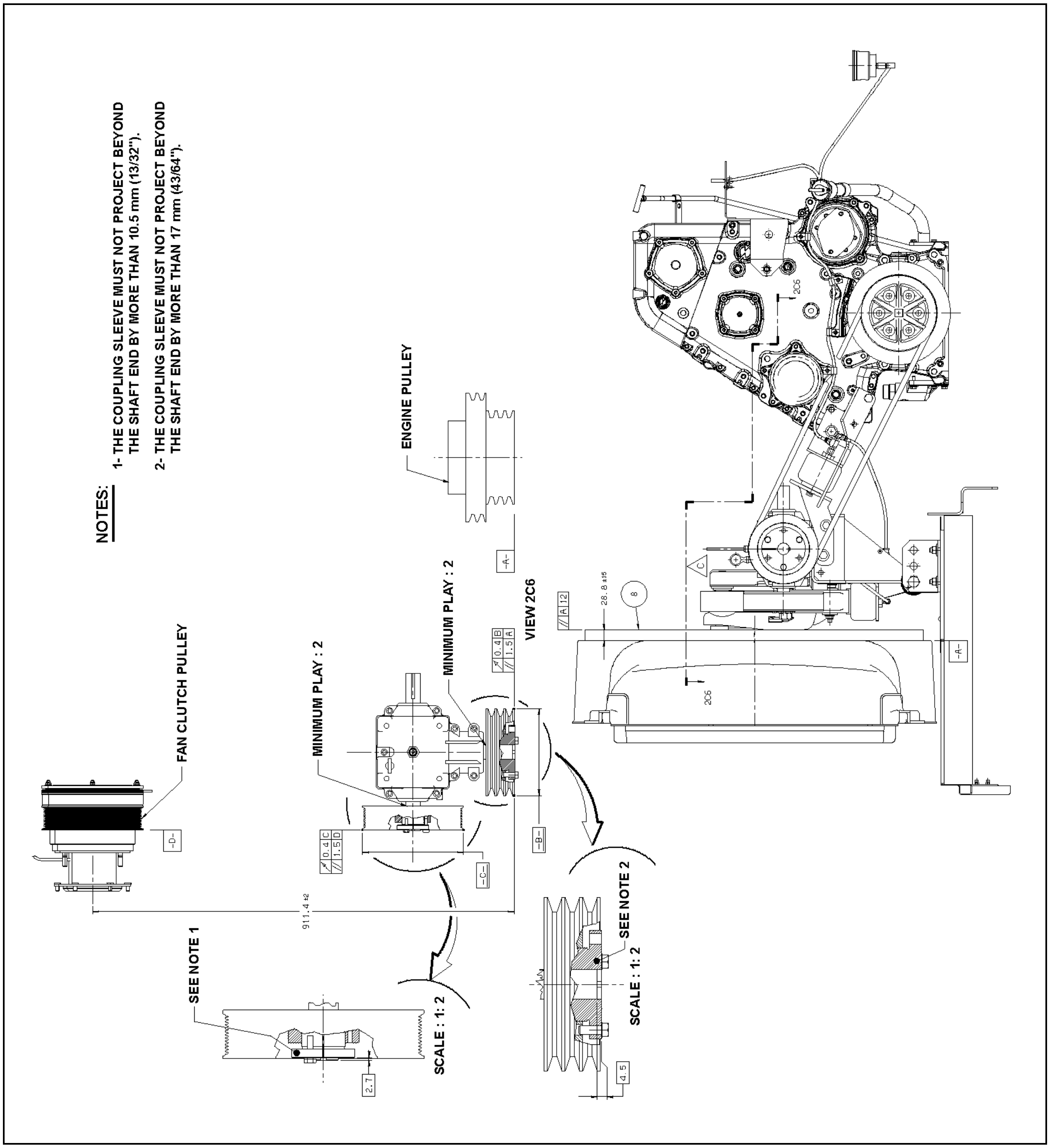

NOTES:
1- THE COUPLING SLEEVE MUST NOT PROJECT BEYOND THE SHAFT END BY MORE THAN 10.5 mm (13/32").
2- THE COUPLING SLEEVE MUST NOT PROJECT BEYOND THE SHAFT END BY MORE THAN 17 mm (43/64").
FAN CLUTCH PULLEY
ENGINE PULLEY
MINIMUM PLAY : 2
MINIMUM PLAY : 2
VIEW 2C6
SEE NOTE 1
SEE NOTE 2
SCALE : 1: 2
SCALE : 1: 2
-A-
-B-
-C-
-D-
2C6
8
2.7
4.5

FIGURE 3

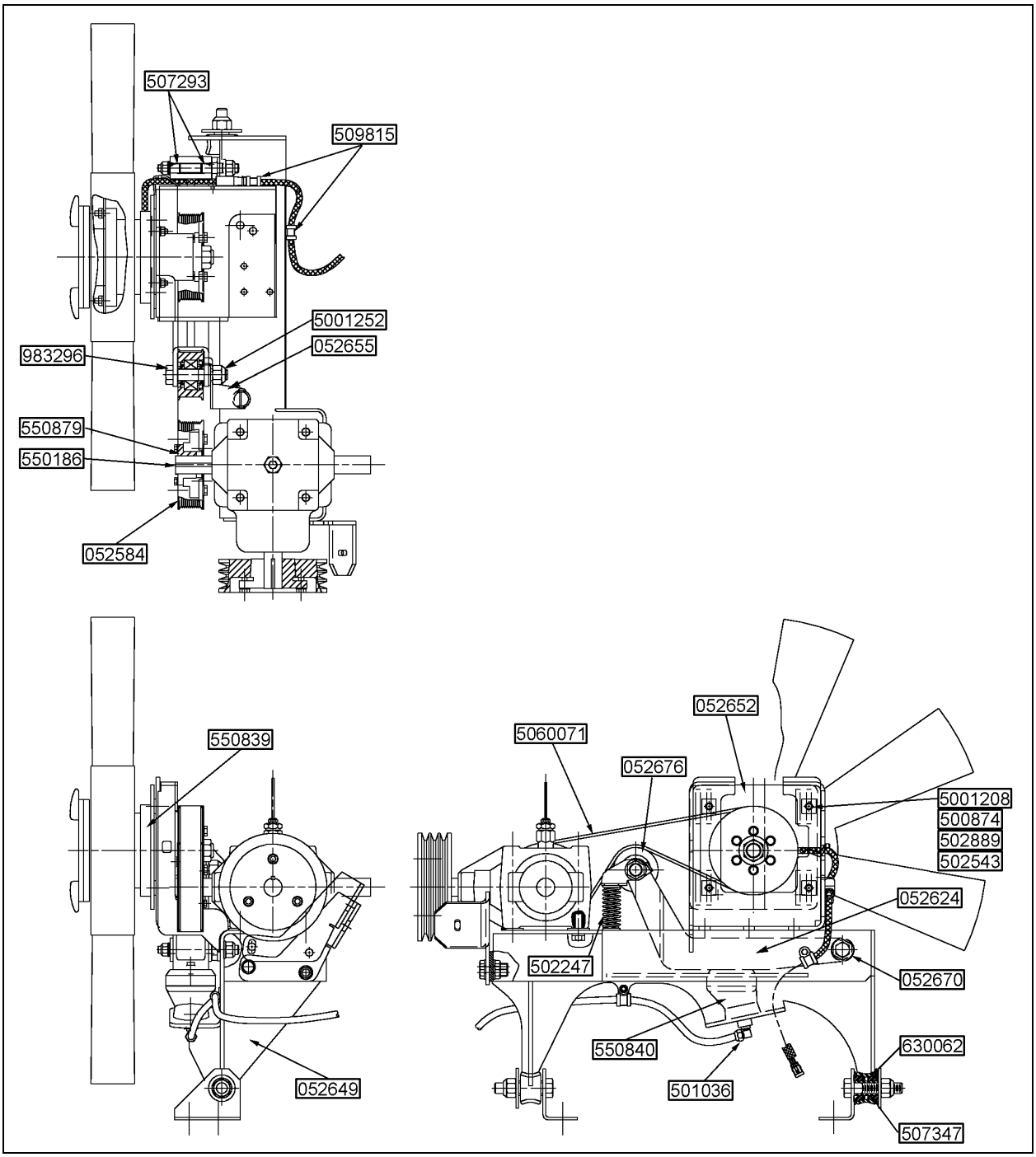

507293
509815
5001252
052655
983296
550879
550186
052584
550839
052649
052652
5060071
052676
5001208
500874
502889
502543
052624
502247
052670
550840
501036
630062
507347

FIGURE 4