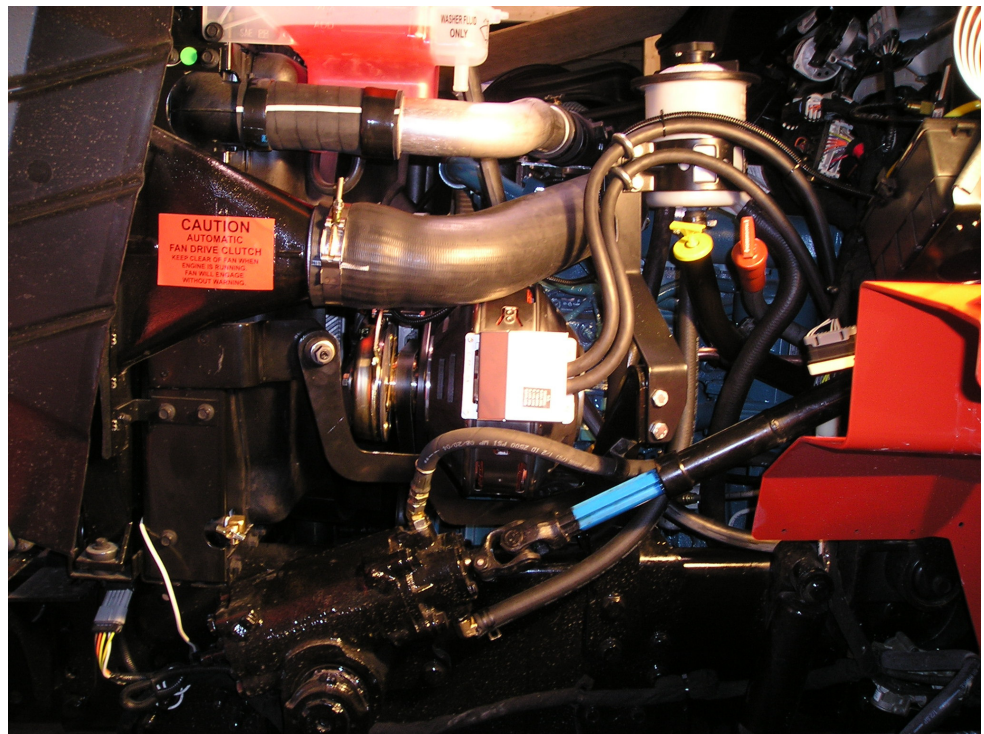




# BLACKBIRD INSTALLATION SUPPLEMENT



FOR INTERNATIONAL 7400 DT 570  
VERSION 6-06



**Parts Included in Installation Kit**

Before beginning installation, check the parts kit thoroughly against the parts inventory list, and make sure that every necessary part is in hand. If parts are missing or you have questions regarding the parts and components, contact Raven Product Support (207-721-1044) before beginning installation.

Parts	Description
Installation Manual	
Installation Supplement	DT 570 7400
Owner's Manual	Including Warrantee Registration
Generator Bracket	
Bracket upper mounting block	
Upper block bolts	(2) M10-1.5 x 70mm w/ flat washers
Upper bracket spacers	(2) 2 1/2"
Upper bracket bolts	(2) M10-1.5 x 100mm w/flat washers
Lower mounting plate	
Two-hole spacer plate	
Lower mounting plate bolts	(2) M10-1.5 x 40mm w/flat washers
Generator belt	NAPA 25-060795 or equivalent
Generator mounting bolts	(4) 3/8-16 x 3/4" flat head socket
Generator Temporary alignment stud	3/8-16 x 1 1/2"
Clutch	3" 6-groove electric
Clutch key	3/16" x 1 3/4"
Clutch bolt (1)	7/16"-20 x 2 1/4" Grade w/ lock washer
Clutch electrical harness	16' red/black
Crankshaft Pulley	13" diameter
Pulley bolts	(6) M10-1.5 x 30mm w/flat washers
Power Steering reservoir bracket	Including back brace
Fasteners	(2) 3/8-18 x 1" HHCS w/ lockwashers & nuts
	(1) 5/16-18 x 1" HHCS w/lockwasher & nut
Power Steering return hose	Replacement: 3/4" x 27"
Replacement radiator support bracket	"W" shaped flat bar



**General Instructions**

This document supplements the Blackbird Large Diesel Wiring Manual with information specific to the International DT 570 in the 7400 chassis. Installation cannot be completed without the Large Diesel Wiring Manual. Contact Raven Product Support (207-721-1044) if more documentation is needed.

This installation provides for full 5kW output from an elevated engine idle of 750 RPM to governed high RPM. Between 750 RPM and governed engine RPM the generator output will be unaffected by changes in engine speed. Below 750 engine RPM output voltage will sag as electrical load is increased.

- All installation steps in this supplement and the Large Diesel Wiring Manual must be completed before operating the system.
- Use Loctite 262 on all engine and bracket mounted bolts.
- All hoses and wires moved or relocated during installation must be secured to prevent chafing and exposure to hot surfaces. At no time should wiring be secured to fuel or exhaust system components.
- All fasteners must be checked and re-torqued after 2 hours of engine operation.

	Torque-Ft-lbs.		
Grade	5	8	8.8
Bolt Size			
1/4	9	12	
5/16	18	27	
3/8	35	40	
7/16	55	60	
1/2	80	90	
5/8	150	180	
8mm			19
10mm			41
12mm			69
14mm			104

**Installing the Raven Bracket and Crankshaft Pulley**

Figure 1 provides an overview of the Raven components to be installed and their mounting locations. We suggest you take a minute before proceeding to review the steps below to familiarize yourself with the parts and their mounting locations.

1. Disconnect all battery negative terminals.
2. Remove engine intake hose from intercooler outlet and swing hose up out of the way.
3. Drain and remove the power steering reservoir. Remove and discard the fluid return hose from the steering box. The OEM supply hose will be rerouted later. Refer to **Figure 2**.
4. Loosen and rotate the power steering pressure hose clockwise on the steering box approximately 45degrees. Leave the lock nut slightly loose as fine adjustment will be made later.
5. Disconnect the windshield washer fill hose. Swing hose out of the way.
6. Remove the radiator frame brace. Press the rubber bushings from the ends into the Raven replacement brace. Discard the OEM brace.

Relieve the tension on the brace by lifting the opened hood slightly and pressing the radiator frame backward

You are now ready to install the generator bracket. The lower mounting plate attaches to a replacement driver’s side motor mount bolt, and the upper mounting block bolts to the front of the cylinder head. (See **Figure 1**.)



*Blackbird Installation Supplement for International 7400 AWD DT 570*

7. Check the machined surface with the two 10mm threaded holes on the top front of the cylinder head to assure it is clean and smooth.
8. Install the upper mounting block according to **Figure 1** using the supplied bolts. The block must be square to the engine. The rear edge of the machined surface on the engine is raised slightly and the block should be snug against it.
9. Remove and discard the driver's side motor mounting bolt located on the front of the engine just to the side of the harmonic damper.
10. Assemble the lower mounting plate to the main bracket using the two-hole spacer plate and the supplied bolts, leaving the bolts slightly loose.
11. Lower the bracket and lower plate down in front of the engine until the lower mounting plate hole aligns with the motor mount hole. Re-insert the bolt through the bracket and finger tighten.
12. Align the upper mounting bolt holes in the bracket with the upper bracket spacers and fasten to the upper mounting block with the supplied bolts (**Figure 1.**)
13. Torque the motor mount bolt to 250 ft. lbs.
14. Tighten the lower mounting plate bolts.

The generator bracket is now in place.

15. Check that the face of the harmonic damper is clean and true, and install the Raven crankshaft pulley on the face of the damper using the 6 supplied bolts. The pulley mounts flat-face-forward. Tighten in opposing sequence.
16. Before mounting the generator, bench-fit the clutch, key, and spacer to the Generator shaft to ensure a slip-fit. Dress as necessary.
17. Ensure that the Generator electrical junction box cover is securely in place. Position the generator behind the bracket with the junction box at approximately 2 o'clock. Slip the generator into the bracket. Assure that the large generator mating ring is seated fully in the large bracket hole. Install four 3/8 16 X 3/4" flat head generator bolts. Do not Loctite!
18. Loop the supplied drive belt over the Generator shaft and install the electric clutch on the shaft. Assure alignment of the clutch key with the keyways in the clutch. The coil retaining stud engages the slot in the clutch flange. Note: the belt passes between the clutch pulley and the retaining standoff (inside, not outside, the standoff). Fasten with the 7/16" clutch bolt and lockwasher. See **Figure 4.**
19. Install the Raven belt according to **Figure 1.** Assure that the belt is seated correctly on all pulleys and idlers.

### **Final Assembly**

Reassembly of the power steering reservoir and hoses, the windshield washer filler hose, final positioning of the power steering pressure line, and installation of the replacement radiator frame brace.

20. Reinstall the engine air intake hose on the intercooler.

Note: some discrepancies have been encountered in the configuration of the OEM steering reservoir bracket, as well as the plumbing of the steering box. The supplied replacement bracket and instructions are a best-guess solution. Some light fabrication may be necessary in re-mounting the reservoir. Sorry.

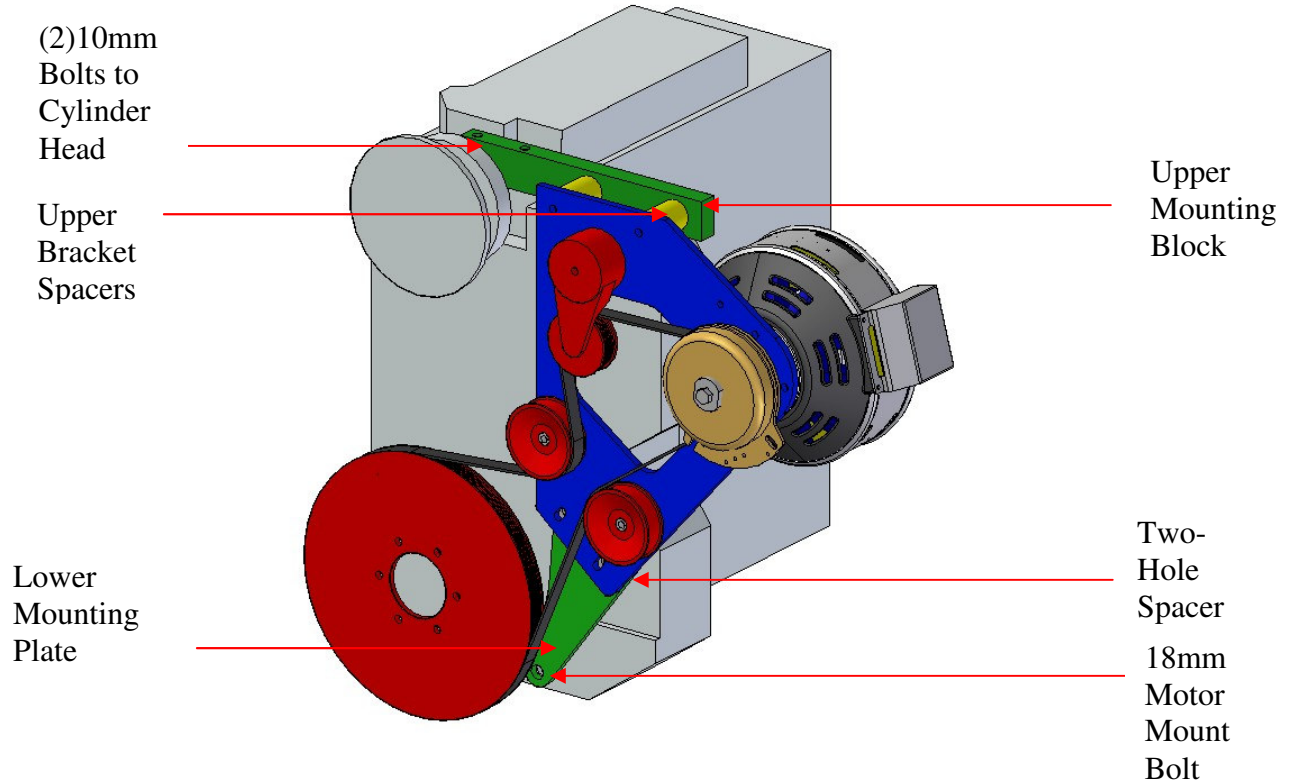


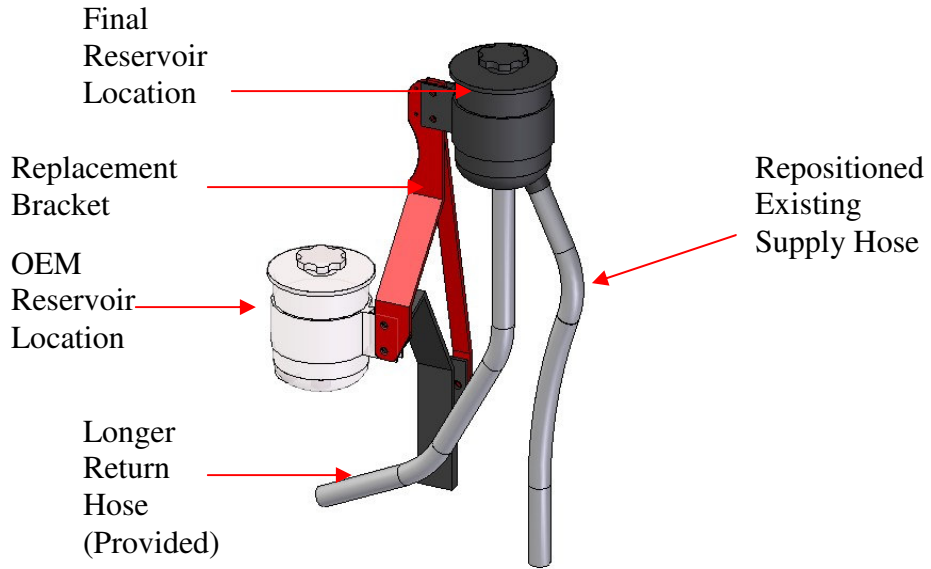
*Blackbird Installation Supplement for International 7400 AWD DT 570*

21. Stretch the power steering pressure line over the top of the OEM power steering reservoir bracket and reroute it on the outer side of the bracket. Secure the hose using the original p-clip and bolt. Leave the lock nut on the steering box slightly loose.
22. Using the supplied fasteners, install the replacement power steering reservoir bracket on top of the original bracket. The bracket back brace should align with a pre-drilled hole in the inner flange of the OEM bracket. **Figure 2.**
23. Using the original bolts, mount the steering reservoir on the replacement bracket with the supply hose nipple facing the firewall. Install the replacement return hose between the steering box and the bottom of the reservoir. Rotate the fitting on the steering box to accommodate hose run. Tighten lock nut.
24. Reconnect the supply hose to the reservoir.
25. Reconnect the windshield washer fill hose, trimming if necessary.
26. Install the replacement radiator brace (with OEM bushings) by wiggling the brace into position from the front. Install the brace in the original bolt locations. **Figure 3** and **Cover Photo.**
27. Fine adjust the power steering pressure hose routing and tighten the lock nut on the steering box.
28. Install the two Generator cable retainers and grommets in the two holes on the power steering reservoir bracket.

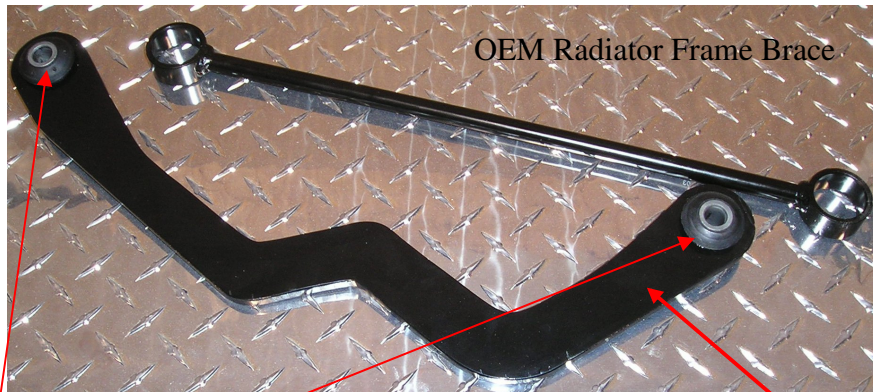
Note that holes in the bracket align with bumps on the reservoir.

**This completes the vehicle-specific installation. Refer to the Large Diesel Wiring Manual for wiring, run up, and troubleshooting instructions.**





**Figure 2.**



**Figure 3.**

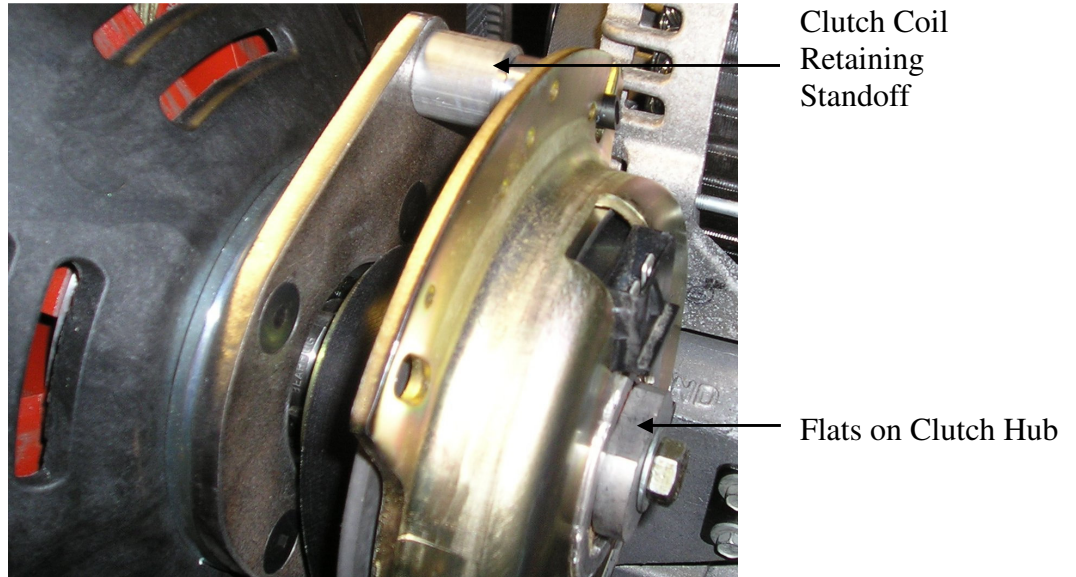


Figure 4  
(Generic photo)