ROBINSON
HELICOPTER COMPANY
2901 Airport Drive, Torrance, California 90505 Phone (310) 539-0508 Fax (310) 539-5198

By: Lindsay M. Allen 20 May 2009
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KI-194 R44 / KI-195 R44 II Fuel Hose Installation Kit Instructions

KIT CONTENTS:

2 inches	A226-11	trim		
1 ea	A701-1.5FT	aluminum tape (1-inch wide, 5-foot roll)		
1 foot	B161-8	spiral wrap tubing	**(KI-194 only)**	
1 ea	C130-17	spacer	**(KI-194 only)**	
1 ea	D205-26	hose assembly	**(KI-194 only)**	
2 ea	D205-26	hose assembly		**(KI-195 only)**
1 ea	D205-27	hose assembly		
1 ea	D453-1	tee		**(KI-195 only)**
1 ea	D453-2	jet		**(KI-195 only)**
1 ea	KI-194/KI-195 INSTR	Kit Instructions		
15 ea	MS3367-5-9	ty-rap		
1 ea	MS21042L08	nut	**(KI-194 only)**	
1 ea	MS21919WDG14	clamp		
1 ea	MS27039C0822	screw		
1 ea	NAS1149FN816P	washer	**(KI-194 only)**	

CONSUMABLES REQUIRED:

B270-6 sealant & lubricant, thread (Titeseal 55, ref R44 Maintenance Manual (MM) Sec 1.480)

INSTRUCTIONS:

CAUTION
Flexible hoses kink easily; handle them with care.

WARNING
Fuel vapors are explosive. Do not use electric tools in vicinity of an opened fuel system.

1. Verify kit contents match above list. Verify all hoses and fitting fluid passages are unobstructed. Contact RHC Customer Service (customerservice@robinsonheli.com) if parts are missing or damaged.

2. Review instructions before installation. Contact Technical Support if you have questions.

3. Defuel helicopter per MM Section 1.150. For fuel-injected R44 II helicopters, turn MASTER switch OFF and defuel at gascolator after removing gascolator sediment bowl; reinstall sediment bowl when defueling is complete.

4. Remove engine right cowling, aft belly panel, C474 trim & cover between aft seat backs, and left & right aft seat back assemblies. Open main rotor gearbox compartment access doors.

5. (a) Refer to Figure 1. Lay out hole locations on C259-2 bulkhead panel and C351-1 brace. Drill four 0.170-inch diameter holes and deburr. Clean up debris.

   (b) R44 II only: Refer to Figure 2. Lay out hole location on C384-3 stiffener. Drill 0.170-inch diameter hole & deburr. Clean up debris.

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6. Refer to R44 Illustrated Parts Catalog Figure 8-1 dated JUL 2008 (or subsequent). Disconnect C726-1 and C726-2 line assemblies from main fuel tank's AN816-6D nipples. Disconnect C726-1 line assembly from auxiliary (aux) fuel tank elbow (R44) or tee (R44 II) and C726-2 line assembly from fuel shut-off valve. Remove and discard lines. Protect all opened fuel fittings.

7. Refer to Figure 3. Between aft seats, remove two MS21919WDG clamps (if installed) and hardware securing static line and horizontal wire bundle to vertical firewall. Discard clamps and screw. If required, lay out hole location on C233-1 vertical firewall and drill 0.170-inch diameter hole; deburr hole and clean up debris.

CAUTION
Protect fuel shut-off valve from drilling debris.

8. Refer to Figure 3. Move static line to wire bundle, install MS21919WDG-8 thru -16 clamp (as required to eliminate play within harness, included -14 clamp is typical) with noted hardware. Install MS3367-5-9 ty-raps on static line and wire bundle as required

9. Refer to Figure 1. Cut a 1.55/1.65-inch length of A226-11 trim and install on bulkhead lip. Clean junction of C351-1 brace & C259-1 panel with solvent, and wrap two layers A701-1 aluminum tape around vertical corner. Press tape smooth.

10. (a) Refer to Figure 1. Connect D205-26 hose assembly to main tank outlet (forward AN816-6D nipple) and fuel shut-off valve. Special torque hose nuts to 110-130 in.-lb and torque stripe per MM Figure 2-1. Install MS3367-5-9 ty-rap around hose thru drilled holes in C351-1 brace. Cinch ty-rap until snug without over-tightening, and trim tip flush with head.

    (b) Electric-trim R44s only: Refer to Figure 3. Install supplied B161-8 spiral wrap tubing on lower end of D205-26 hose assembly to prevent chafing by collective trim spring.

11. (a) R44 II only: Refer to IPC Figure 4-31J dated JUL 2008 (or subsequent). Disconnect C726-7 line assembly from pressure relief valve assembly and aux fuel tank tee. Remove and discard line. Remove tee (do not remove strainer) and discard.

    (b) R44 II only: Refer to Figure 2. Loosen B283-11 hose assembly at connector under horizontal firewall, then loosen AN316-7R nut. Rotate relief valve so fitting points 70° ± 5° aft and special torque AN316-7R nut to 135-150 in.-lb. Special torque B283-3 hose assembly nut to 135-150 in.-lb, and torque stripe both nuts per MM Figure 2-1.

    (c) R44 II only: Refer to Figure 2. Apply B270-6 sealant sparingly to tapered pipe threads of D453-1 tee (do not apply sealant to first thread). Install tee in aux fuel tank outlet, torque to 110 in.-lb, then tighten tee to align with relief valve assembly within 5°. Torque stripe tee per MM Figure 2-1.

    (d) R44 II only: Refer to Figure 2. Install D453-2 jet in tee inlet (outboard side). Connect D205-26 hose assy to relief valve & tee inlet, torque hose assy nuts to 110-130 in.-lb, & torque stripe per MM Figure 2-1. Ty-rap hose to C384-3 stiffener with two MS3367-5-9 ty-raps. Cinch ty-raps until snug without over-tightening, and trim tips flush with heads.

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12. Refer to Figure 2. Connect D205-27 hose assembly to main tank aft AN816-6D nipple and aux tank elbow or tee. Special torque nuts to 110-130 in.-lb. and torque stripe per MM Figure 2-1. Install MS3367-5-9 ty-rap around hose thru drilled holes in bulkhead. Cinch ty-rap until snug without over-tightening, and trim tip flush with head.

13. Add at least 20 pounds of fuel to main fuel tank. Verify no fuel leaks.

14. Perform fuel flow check of carbureted R44 per MM Section 12.260. Perform fuel-flow check of fuel-injected R44 II as follows:

    (a) Electrically ground the helicopter.

    (b) Remove gascolator sediment bowl, gasket, and screen. Turn MASTER switch ON and defuel helicopter thru gascolator top into an approved, electrically grounded container until LOW FUEL light illuminates then turn MASTER switch and fuel shut-off valve OFF.

    (c) Electrically ground to helicopter a container of known volume, as listed below. Turn fuel shut-off valve ON, fill container thru gascolator top, then turn fuel shut-off valve OFF. Verify filling time does not exceed maximum listed.

Quantity	Maximum Time
1 U.S. Gallon	90 seconds
4 Liters	95 seconds
1 Imperial Gallon	108 seconds

    (d) If fuel flow is insufficient (maximum time is exceeded), check for obstructions in fuel tank vents, fuel tank outlet strainer, fuel line, and hoses.

    (e) Reinstall gascolator screen, gasket, and sediment bowl, and safety with 0.032-inch diameter lockwire.

15. Install aft belly panel and left & right aft seat back assemblies. Secure access doors.

16. Run-up helicopter per Pilot's Operating Handbook.

17. Verify no fuel leaks. Install engine right cowling, and C474 trim & cover.

18. Revise helicopter's Equipment List, Weight & Balance Data Sheet in Pilot's Operating Handbook Section 6 to reflect this installation by incorporating following data as appropriate:

	Weight (lb)	Longitudinal Arm (inches)	Longitudinal Moment (in.-lb)	Lateral Arm (inch)	Lateral Moment (in.-lb)
R44 Flexible Fuel Hose Installation	+0.27	92.59	+25.00	1.78	+0.48
OR					
R44 II Flexible Fuel Hose Installation	+0.43	94.14	+40.48	7.26	+3.12

16. Make appropriate maintenance record entries.

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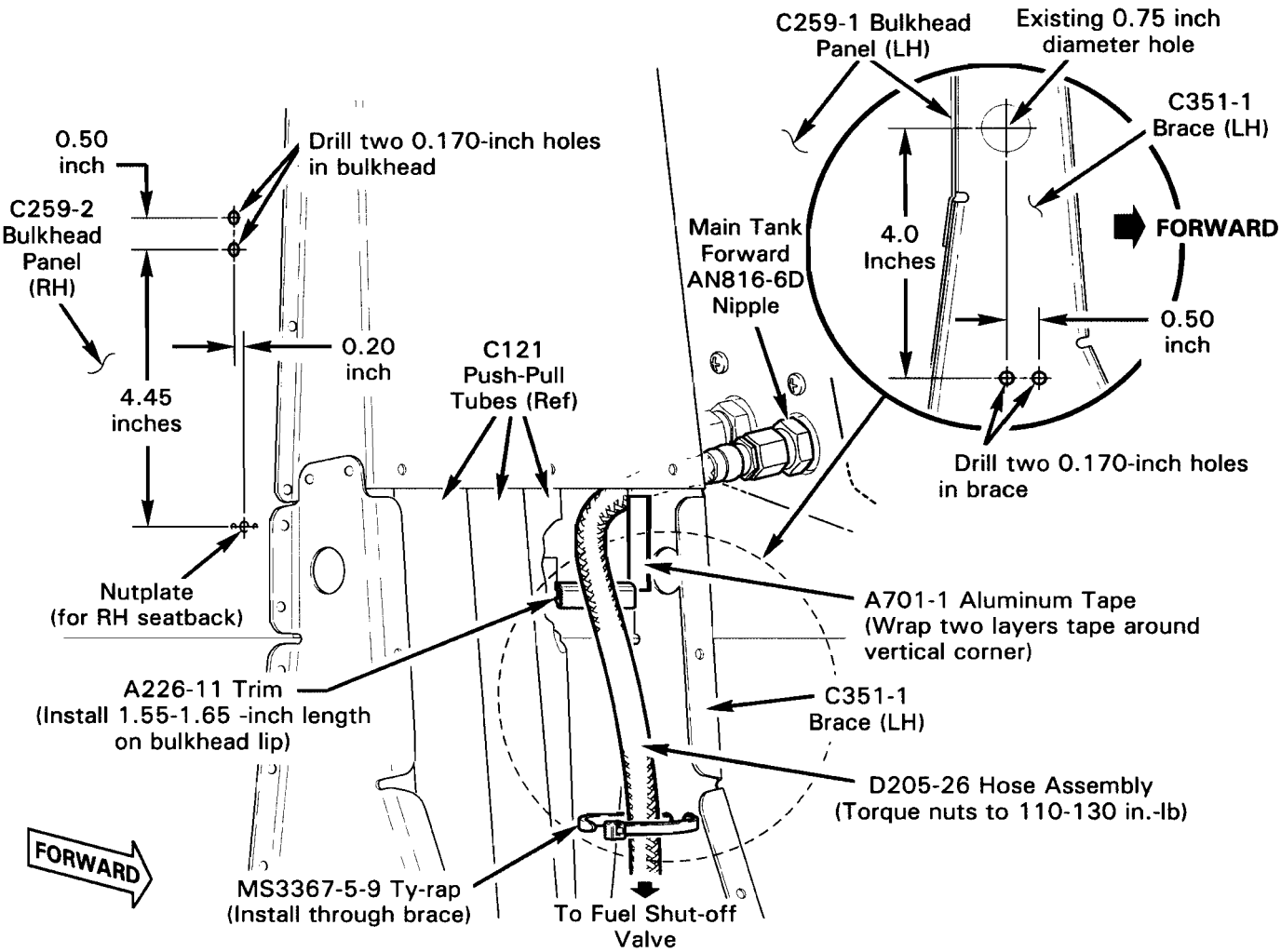

FIGURE 1

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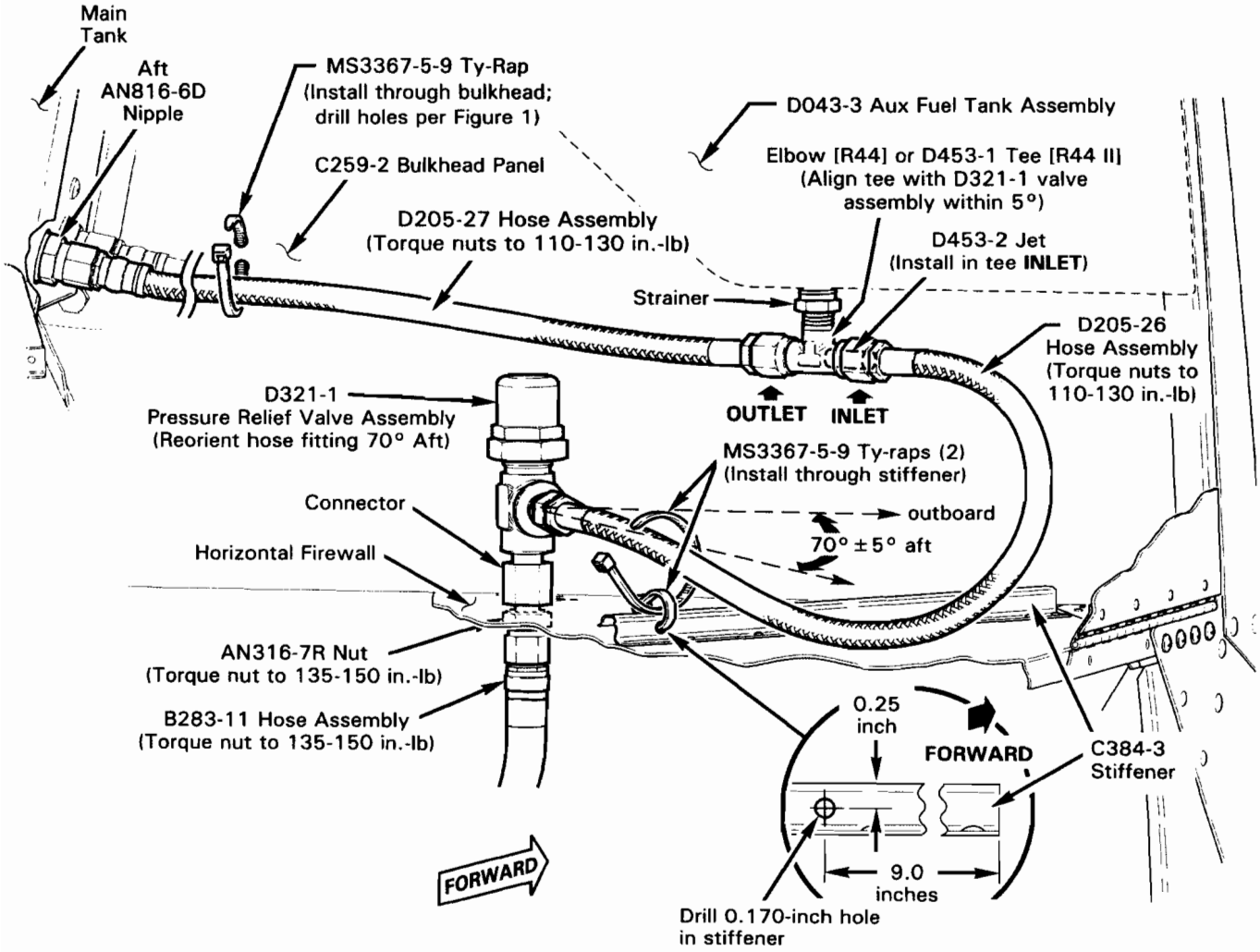

FIGURE 2
(R44 II SHOWN UNLESS OTHERWISE SPECIFIED)

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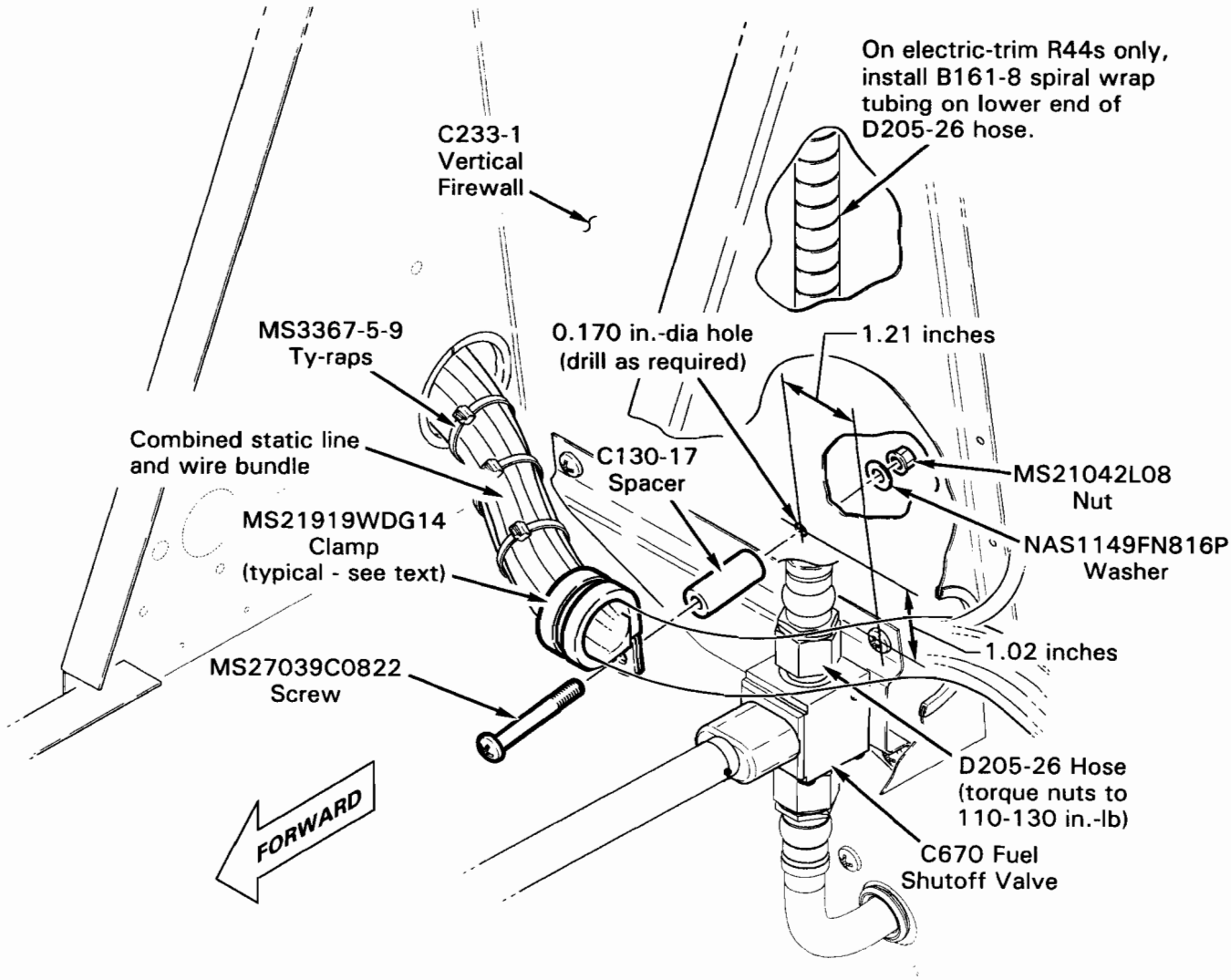

FIGURE 3