

**KI-238 R22 Collective-Activated Hourmeter Installation Kit Instructions**

**NOTE**

Visit [www.robinsonheli.com](http://www.robinsonheli.com) to verify kit instructions are current revision. Review instructions before installation; contact [RHC Technical Support](#) with questions. Verify kit contents match list; contact [RHC Customer Service](#) if parts are missing or damaged.

ITEM	PART NUMBER	KIT CONTENTS	QTY
1	KI-238 Instr.	Kit Instructions .....	1
2	B158-1-1	Heat Shrink (1-inch length).....	1
3	B158-103-2	Heat Shrink (2-inch length).....	1
4	B260-1	Terminal – Ring Tongue .....	2
5	B261-2	Butt Splice .....	3
6	B387-3	Decal .....	1
7	B387-750	Wire (marked “-750”) .....	1
8	B387-751	Wire (marked “-751”) .....	1
9	D275-101	Diode .....	1
10	MS35206-212	Screw .....	1
11	MS35206-324	Screw .....	2
12	MS21042L04	Nut .....	2
13	MS3367-4-9	Ty-Rap .....	10
14	NAS1149FN416P	Washer .....	2
15	NAS620-4	Washer .....	2
16	V3-1	Switch .....	1

**Special Tools**

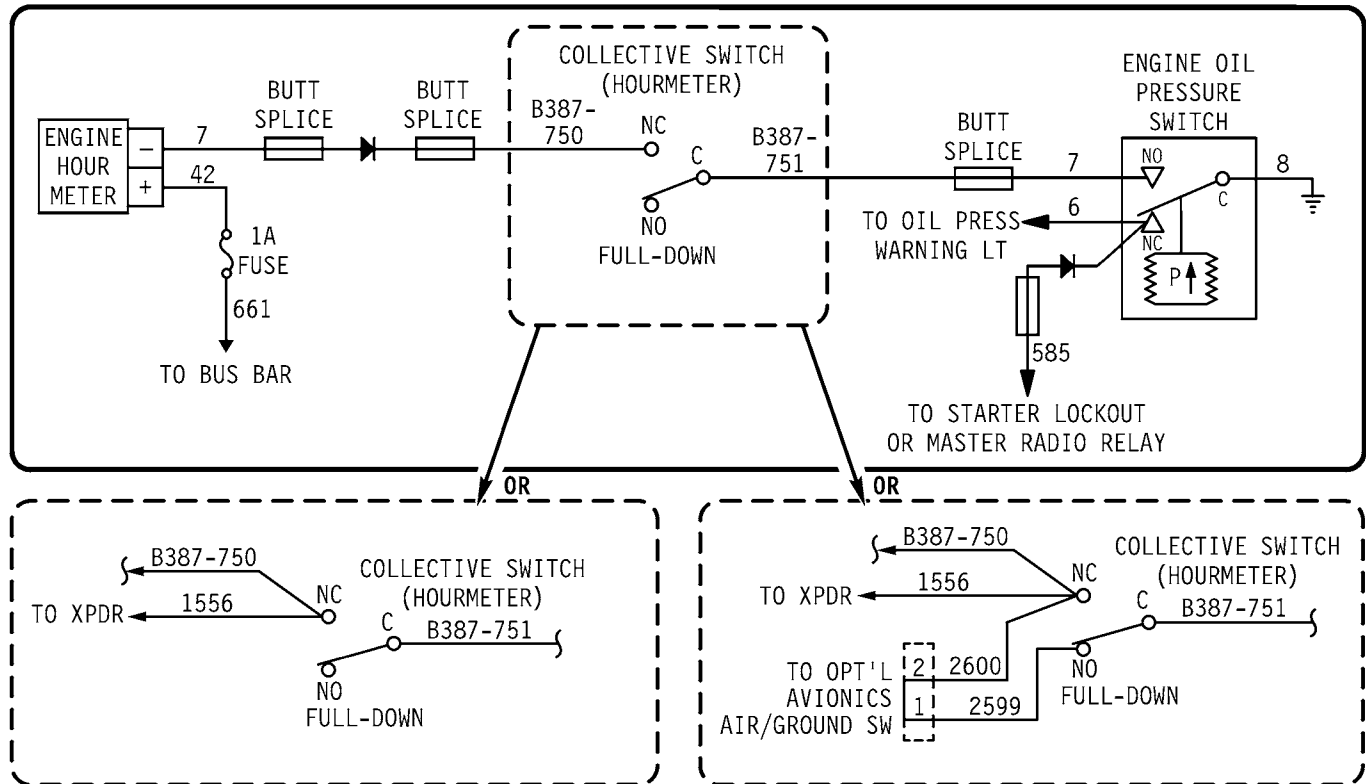
- Heat gun
- Wire stripping and crimping tools

**Kit Instructions**

**NOTE**

Refer to R22 Maintenance Manual (MM) Airworthiness Limitations Section dated 10 March 2016 (or subsequent) for service lives if time is tracked based on flight (collective up) time.

1. Turn battery switch off. Access battery as required and disconnect negative (ground) cable.
2. Remove left seat back, vertical panel between seat backs, horizontal cover below pilot’s collective, and belly panel.



**FIGURE 1**

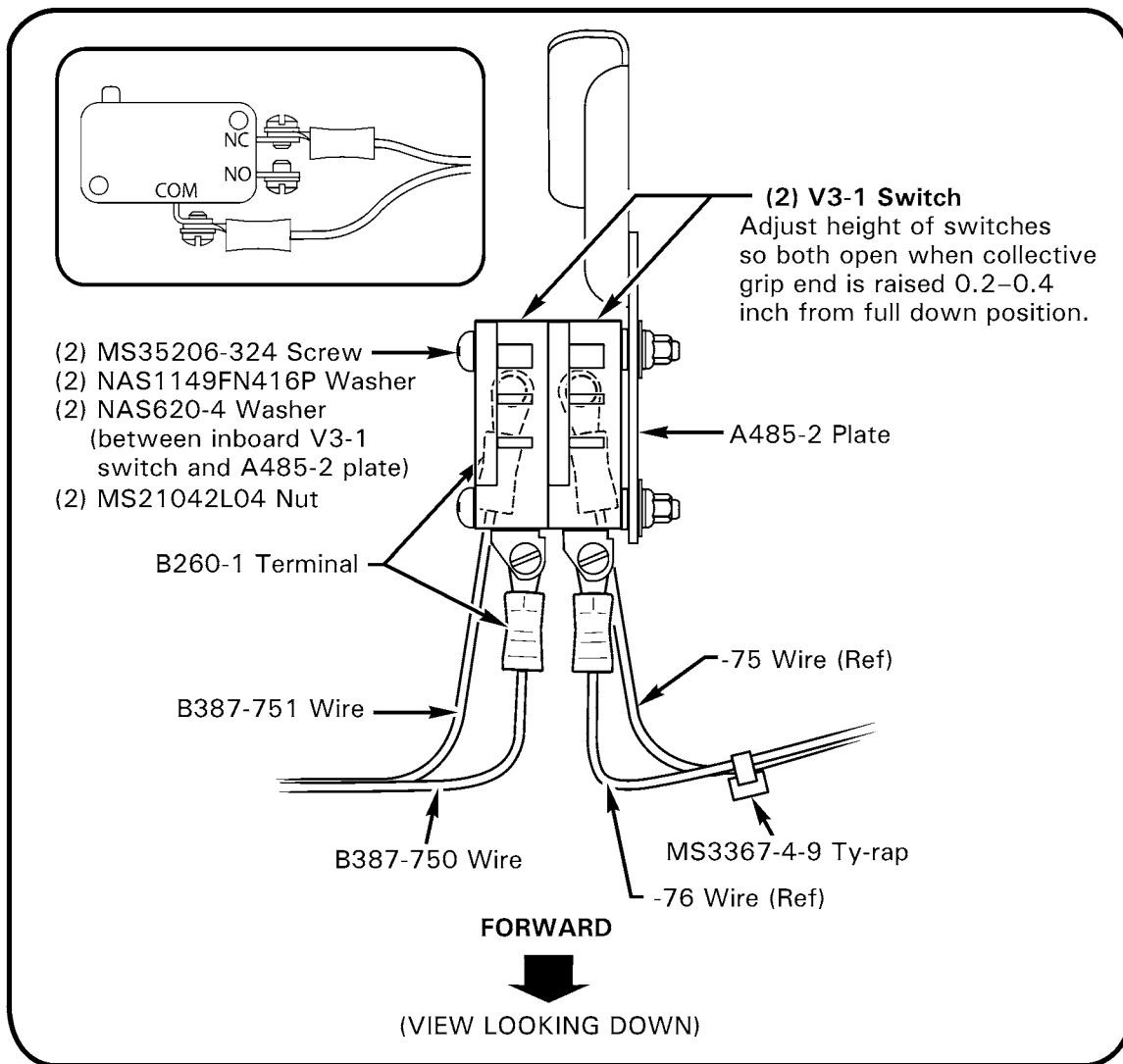
**Kit Instructions (continued)**

3. Refer to Figures 1 and 2. Strip ends of (supplied) B387-751 wire. Crimp (supplied) B261-2 butt splice on one end of -751 wire; crimp (supplied) B260-1 ring terminal on opposite end of -751 wire.
4. Repeat step 3 on (supplied) B387-750 wire. Crimp B387-750 wire's butt splice on banded end of (supplied) D275-101 diode; crimp (supplied) B261-2 butt splice on opposite end of diode. Slide B158-103-2 heat shrink over diode and splices and activate heat shrink.
5. At aft end of control tunnel, cut ty-raps as required and locate -7 wire in airframe harness. Cut -7 wire and strip ends; crimp B387-751 wire's butt splice on -7 wire to engine oil pressure switch, and crimp B387-750 wire's butt splice on -7 wire from hourmeter. Route wires along airframe harness to collective-activated V3-1 switch(es).
6. Refer to Figure 2. Remove hardware securing V3-1 switch(es) to A485-2 plate and remove switch(es). Discard hardware. NOTE: -75 and -76 wires connected to installed V3-1 switch must remain connected.
  - a. If one V3-1 switch is installed: Connect B387-751 wire to (supplied) V3-1 switch's "C" (common) receptacle and B387-750 wire to switch's "NC" (normally closed) receptacle. Ensure terminals do not contact each other and tighten screws.

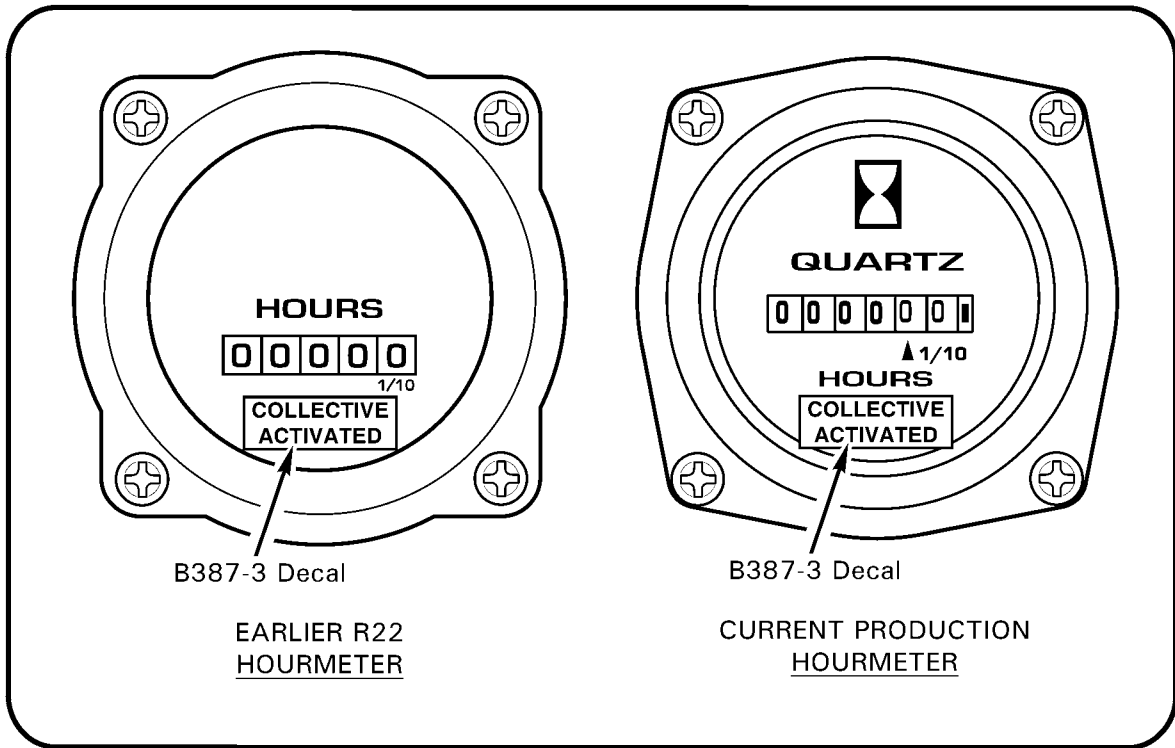
**Kit Instructions (continued)**

6. b. If two V3-1 switches are installed:

- i. Disconnect -1556 wire (and -2600 wire if installed) from inboard V3-1 switch's "C" terminal and -2200 wire from switch's "NC" terminal (-2599 wire if installed may remain connected to switch's "NO" terminal). Connect B387-751 wire to inboard V3-1 switch's "C" terminal and connect B387-750 and -1556 wires (and -2600 wire if installed) to switch's "NC" terminal; transfer lockwasher from original screw and secure lug terminals using MS35206-212 screw (supplied). Tighten screws and ensure lug terminals and screws do not contact each other. Verify security.
- ii. Cut off -2200 wire terminal; slide 1-inch length B158-1-1 heat shrink over wire end and apply heat. While heat shrink is hot, pinch and close the open tip using smooth-jaw pliers to seal tip. Visually verify wire is insulated and verify heat shrink security.



**FIGURE 2**



**FIGURE 3**

**Kit Instructions (continued)**

7. Install (supplied) hardware securing V3-1 switch(es) to A485-2 plate as shown, but do not tighten. Adjust switch(es) to open when collective grip end is raised 0.2–0.4 inch from full down position and special torque screws to 5 in.-lb. Verify security.
8. Secure wires to airframe harness using MS3367-4-9 ty-raps as required. Cinch ty-raps until snug without over-tightening, and trim tips flush with heads. Verify security.
9. Verify freedom of flight controls thru full range of travel, and no contact with wiring.
10. Install left seat back, vertical panel between seat backs, horizontal cover below pilot’s collective, and belly panel.
11. Refer to Figure 3. Install B387-3 decal as shown.
12. Verify battery switch is off. Connect battery ground cable.
13. Make appropriate maintenance record entries. No change to helicopter weight and balance.