SERVICE BULLETIN

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* Supersedes Service Information Notice No. HN-34, Dated May 18, 1971

MODIFICATION KIT (M50438) – TRIM POTENTIOMETER, ENGINE OIL PRESSURE GAGE

1. MODELS AFFECTED:

Model 369ES Helicopter Serial Nos. 0001S thru 0306S
Model 369HE Helicopter Serial Nos. 0101E thru 0215E
Model 369KM Helicopter Serial Nos. 0001 thru 0004;0005M thru 0206M

A. PREFACE:

The information given in this Service Information Notice lists a procedure for installing a new P/N 6460013 oil pressure sender and trim potentiometer. circuit on the above affected helicopters, to provide a means for adjusting the oil pressure gage. Instructions are included for calibrating the potentiometer, oil pressure sender, and cockpit gage at installation

It is noted that P/N 369A4534 oil pressure senders in spares inventory do not require a potentiometer, and may be utilized in lieu of this modification kit.

In the future, only the P/N 6460013 senders {with white dot) will be stocked by HTC.

Kit parts required may be purchased from Hughes Tool Company, Spare-Parts Department.

B. TIME OF COMPLIANCE:

Shall be accomplished, on a one-time basis after date of this Notice, at the next replacement of P/N 369A4534 oil pressure sender.

C. WEIGHT AND BALANCE:

Weight and balance not affected

D. REFERENCE:

500 Series - Basic Handbook of Maintenance Instructions, Revised 1 May 1970 (I) Denotes portion of text added or revised

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E. PARTS LIST:

When ordering, specify Kit Part No. M50438, consisting of:

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	**Part No.**	**Qty.**	**Source**
Harness Assembly (includes potentiometer)	M50438–21	1	HTC –AD
Sender, Oil Pressure	#6460013 (with white dot)	1	HTC –AD
Decal	369H6420–3	1	HTC –AD
Strap	MS17821–1–9	6	HTC –AD
Washer	AN960C6L	1	Commercial
Screw	AN515C6–5	1	Commercial

F. TOOLS AND EQUIPMENT:

TOOLS AND EQUIPMENT Nut	
Nomenclature	**Source**
Master Pressure Gage – Direct Reading (150 psi gage 1% accuracy) or Compressed Air Scource – Dry Nitrogen/Air Bottle, Portable (150 psi gage 1% accuracy)	Commercial
Drill Motor, Portable	Commercial
Drill Bit – #30 (0.1285 in. dia.)	Commercial
Drill Bit – #3/8 (0.375–0.395 in. dia.)	Commercial
Drill Bit – (0.177 in. dia.)	Commercial

G. MATERIALS:

MATERIALS	
Nomenclature	**Source**
Paint, Acrilic Lacquer – White	Commercial

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2. PROCEDURE

a. Check that all electrical power is OFF.

b. Remove instrument panel side fairings, per Section 2 of Basic HMI.

c. Remove four-pack instrument cluster from console, per Section 17 of. Basic HMI.

d. Remove guard and resistor board from back side of oil pressure gage. (See Figure 1)

e. Install potentiometer wiring (-21 harness assembly) to oil pressure gage terminals as shown.

f. Print or stencil "3A" in white paint on back side of four-pack unit at oil pressure gage terminal as shown.

g. Install decal; print or stencil "R303" in white paint on deck plate as shown.

h. Drill #30 pilot hole and #3/8 hole in console deck plate at dimensions shown; drill #30 pilot hole and 0.177 in. dia. hole in console deck at dimensions shown.

i. Reinstall four-pack instrument cluster with potentiometer and wiring attached.

j. Install resistor assembly in #3/8 hole in console deck plate; position potentiometer with wires facing back of oil pressure gage; install AN515C6-5 screw and AN960C6L washer.

k. Replace-existing oil pressure sender with new sender unit, per Section 17 of Basic HMI.

1. Calibrate installed pressure gage and pressure sender as follows:

METHOD I

(1) Roughly center potentiometer between extremes of resistance, using adjustment screw.

(2) Install master pressure gage in engine oil pressure line upstream of sender; use suitable means to catch residual oil from line, when pressure line is disconnected.

(3) Start and operate engine to 80% N1 (at stabilized oil pressure point).

N1 Limits (Allison)

94.2%	110-130 psi
78.5%	90-130 psi
less than 78.5%	50-130 psi

(4) Set potentiometer adjustment screw to match four-pack gage reading to master gage.

(5) Remove master gage from oil line and reconnect oil pressure line.

ALTERNATE METHOD II

(1) Roughly center potentiometer between extremes of resistance, using adjustment screw.

(2) Disconnect oil pressure line at sender; use suitable means to catch residual oil from line when pressure line is disconnected.

(3) Install pressurizing apparatus (150 gage, 1% accuracy), by connecting nitrogen/compressed air source hose through a source valve to pressure port of sender unit. (Do not use oxygen bottle).

(4) With helicopter power ON (28v ext. power), slowly pressurize sender until 150 psi is applied. Slowly reduce pressure to 130 psi.

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(5) Using potentiometer adjustment screw, adjust position of cockpit gage so that right-hand edge of pointer aligns with left-hand edge of red stripe at the 130 psi gage indicator. The potentiometer adjustment screw can be rotated in either direction from the center.

(6) Release pressure and recheck. With the pressure increasing, the allowable tolerance is one pointer width at the tip from pressurization to pressurization.

(7) Remove pressure apparatus and reinstall oil pressure line at sender unit.

m. Secure potentiometer jumper wires with tie-straps to existing cables or structure to prevent movement.

n. Check modification kit installation for discrepancies.

o. Perform operational check of engine oil system (bleed oil pressure line).

p. Reinstall instrument panel side fairings.

q. If Method I was used for calibrating pressure gage and sender, perform flight check to ensure proper oil pressure (120 ± 10 psi) at regulation point.

r. Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.

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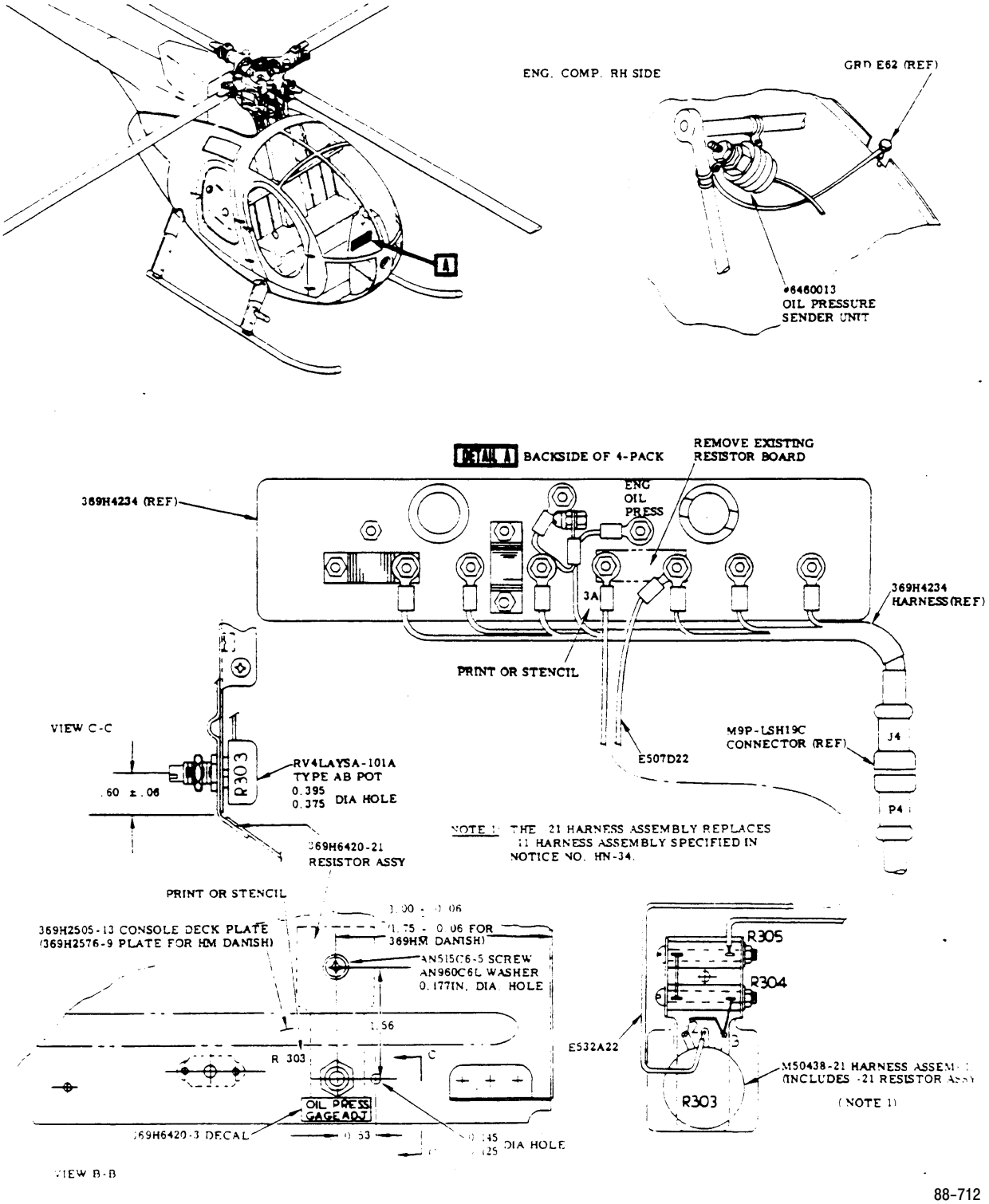

Figure 1. Modification Kit (M50438) - Trim Pot. Engine Oil Pressure Gage