



# HUGHES SERVICE INFORMATION NOTICE

NOTICE NO. HN-192

DATE 15 February 1984

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MANDATORY

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SUBJECT: INSTRUMENT CLUSTER 4-PACK CONVERSION AC TO ROCHESTER

MODELS AFFECTED: 500 Model 369HS Helicopter, Serial No. 0101 through 0410  
500 Model 369HM Helicopter, Serial No. 0201 through 0247

TIME OF COMPLIANCE: Shall be accomplished at next replacement of instrument cluster 4-pack assembly.

PREFACE: The information given in this Service Information Notice lists a procedure for conversion from the AC instrument cluster 4-pack assembly to the Rochester instrument cluster 3-pack assembly and separate oil pressure indicator. The AC instrument cluster 4-pack assembly is no longer available from the manufacturer. Therefore, when replacement becomes necessary, it must be replaced with the Rochester instrument cluster 3-pack assembly and separate oil pressure indicator.

## Reference

500 Model 369H Series Basic HMI, Publication No. CSP-H-2, Reissued 15 September 1982

Customer Service Department

### PARTS LIST

When ordering, specify Kit No. M30304-503 (369HS) or M30304-505 (369HM), consisting of the following:

<u>Nomenclature</u>	<u>Part No.</u>	<u>Qty</u>	<u>Mfr</u>
Plate assembly	M30304-3	1	HHI
Instrument Cluster assembly	423-042	1	Rochester
Indicator, oil pressure	1130-003	1	B&D Instruments, Inc.
Strap	MS3367-1	AR	Commercial
Splice	MS25181-1	1	Commercial
Terminal	MS25036-149	2	Commercial
Terminal	MS25036-103	1	Commercial
Washer	NAS620A6L	6	Commercial
Screw	MS51957-28	4	Commercial
Screw	MS35214-28	2	Commercial
Screw	MS24693C30	2	Commercial
Clamp	MS28042-3A	1	Commercial
Clamp	AN742F4	2	Commercial
Resistor (R3)	RN55C1210F	1	Commercial

1/8W, 121 ohm, 1%

### MATERIALS

No. 4 fiber glass sleeving, MIL-I-3190, Class HA-1, 0.214 in. ID X 4.0 in.  
Wire, AWG 22, MIL-W-16878/4, 19 strands (or equivalent), length as required.

Solder, QQ-S-571

Trichlorethane 1-1-1, O-T-620C

Primer, zinc chromate, TT-P-1757

1063-166, E.I. duPont de Nemours & Co., Marshall Laboratory,  
3500 Grays Ferry Ave., Philadelphia, Pa. 19146

908-L-02110, Glidden-Durkee, Div. of SCM Corp., 900 Union  
Commerce Bldg., Cleveland, OH 44115

## TOOLS AND EQUIPMENT

Drill motor, portable  
Drill bit, No. 17  
Saw or shears, metal cutting  
Soldering iron

## PROCEDURE

- a. Turn off electrical power.
- b. Replace resistor (R3) as follows (see Figure 1):
  1. Open engine compartment access doors (refer to Basic HMI, Section 2).
  2. Locate existing resistor (R3) in engine compartment, right-hand side. Remove and retain mounting hardware.
  3. Unsolder wires D505C20 and D510B20 from resistor (R3) and discard resistor.

## NOTE

Prior to soldering, thoroughly clean surfaces to be soldered with trichlorethane 1-1-1.

## WARNING

Provide for adequate ventilation when using trichloroethane 1-1-1.

4. Install new resistor (R3). Lap solder wires to resistor and cover with sleeving.
  5. Install clamps with hardware retained above.
  6. Close engine compartment access doors.
- c. Remove instrument panel right side fairing (369HS) (refer to Basic HMI, Section 2).
  - d. Unplug connector (J4).

e. Remove and retain hardware attaching instrument cluster 4-pack assembly to instrument panel. Remove instrument cluster 4-pack assembly from instrument panel.

f. Modify instrument panel as follows (refer to Figure 1):

#### CAUTION

Ensure that metal chips do not fall into instruments or wiring.

1. Locate and drill four 0.177/0.169 in. holes in instrument panel to match plate assembly. Use No. 17 drill bit. Remove burrs as required.
2. Make cutout in instrument panel as shown. Use metal cutting saw or shears. Touchup with zinc chromate primer.

g. Install oil pressure indicator and instrument cluster 3-pack assembly as follows (see Figure 1).

1. Install plate assembly on instrument panel with hardware as shown.
2. Install oil pressure indicator on plate assembly with clamp and hardware as shown.
3. Install instrument cluster 3-pack assembly on instrument panel with hardware as shown.

h. Rework instrument wiring as follows (see Figure 2):

1. Install terminals on oil pressure indicator pigtail wires and connect wires to instrument cluster 3-pack as shown.
2. Fabricate and install wire E507A22 as follows:
  - a) Splice wire to remaining oil pressure indicator pigtail wire (see Figure 2) and route along instrument cluster 3-pack wire harness assembly to connector (J4).

#### NOTE

Prior to soldering, thoroughly clean surfaces to be soldered with trichlorethane 1-1-1.

#### WARNING

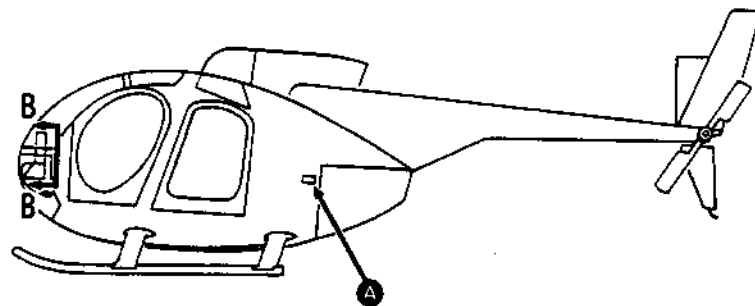
Provide for adequate ventilation when using trichloroethane 1-1-1.

- b) Trim excess wire and solder wire to connector (J4), position C.
- c) Secure wire E507A22 to instrument cluster 3-pack wire harness assembly with cable straps as required.
- i. Connect receptacle (J4) to plug (P. 4).
- j. Check wiring for security and correct termination.
- k. Turn on electrical power and check all instruments for proper operation.
- l. Reinstall instrument panel right side fairing (369HS).
- m. Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.

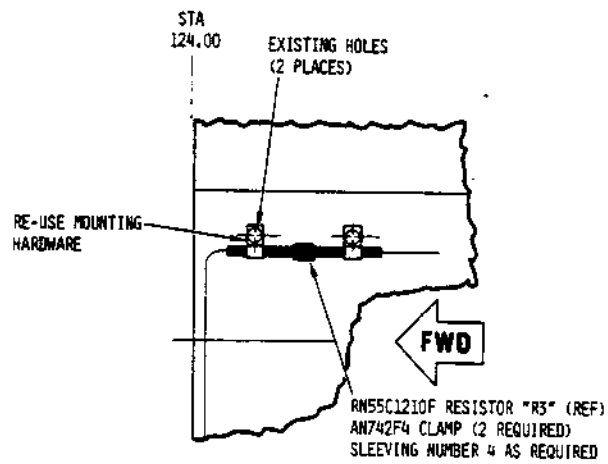
#### WEIGHT AND BALANCE DATA

Weight and balance not affected

The resultant alteration to the affected Model 369H Series Helicopters, described by the kit installation instructions in this Notice, has been shown to comply with Federal Aviation Regulations and is FAA Approved.



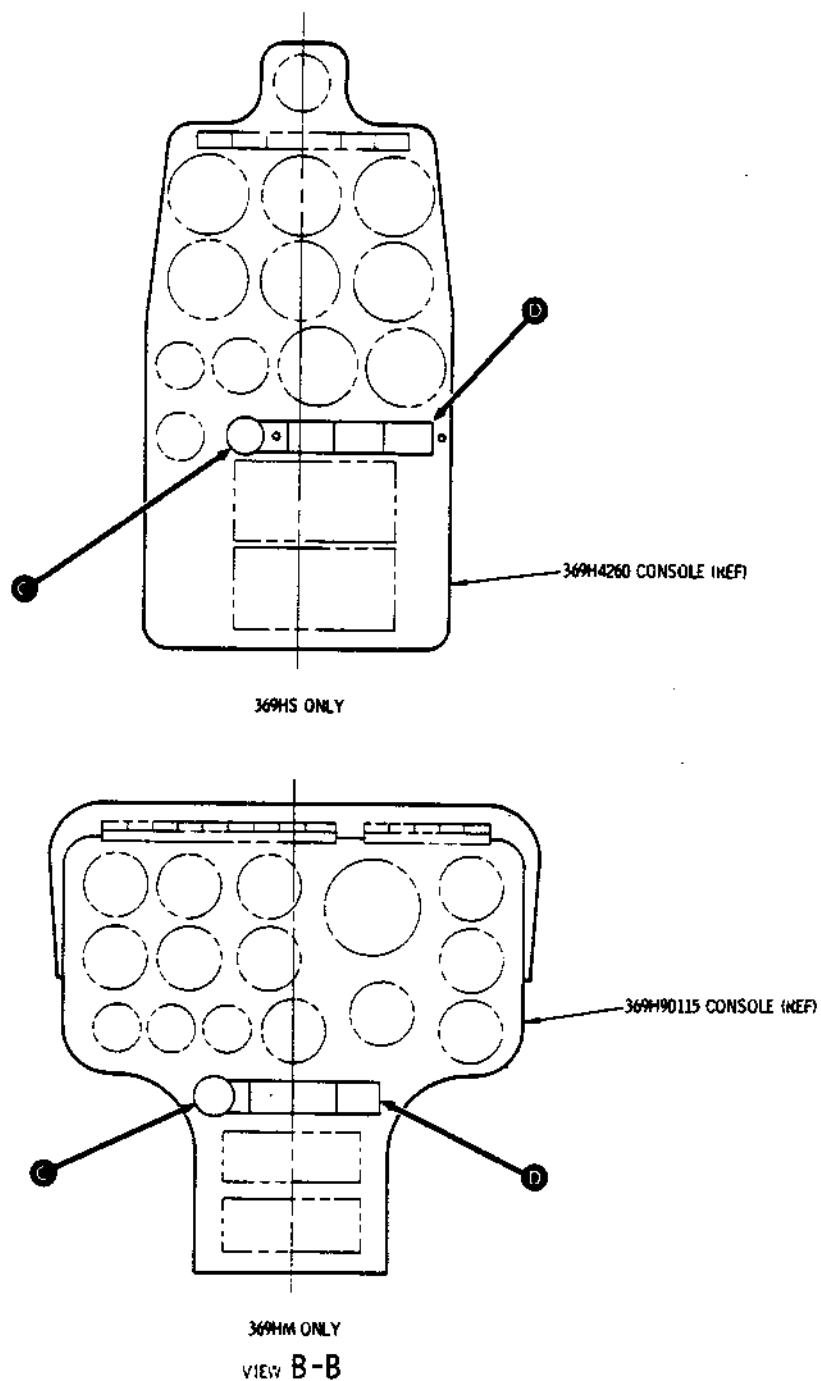
EXISTING RESISTOR "R3" NUMBER  
3730 R.H. SIDE OF ENGINE COMPARTMENT



A

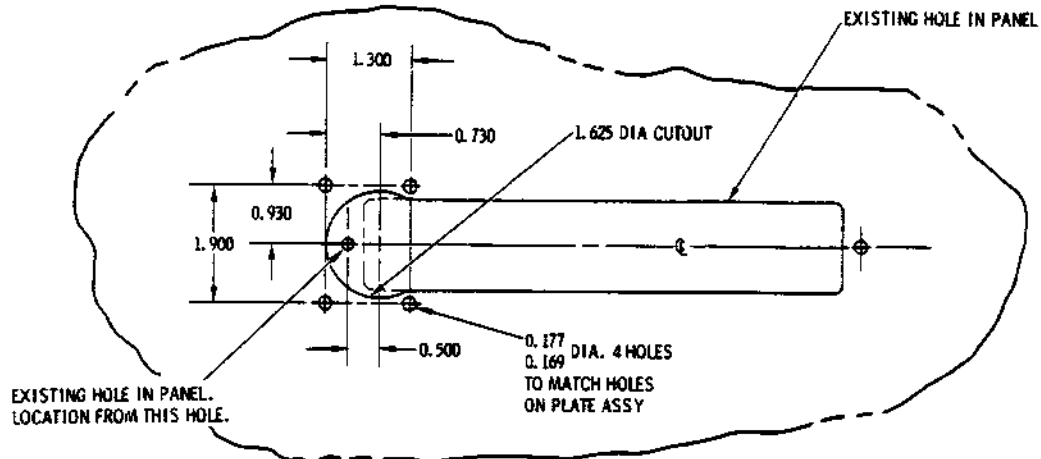
88-550-1

Figure 1. Instrument Cluster 4-Pack Conversion (sheet 1 of 3)

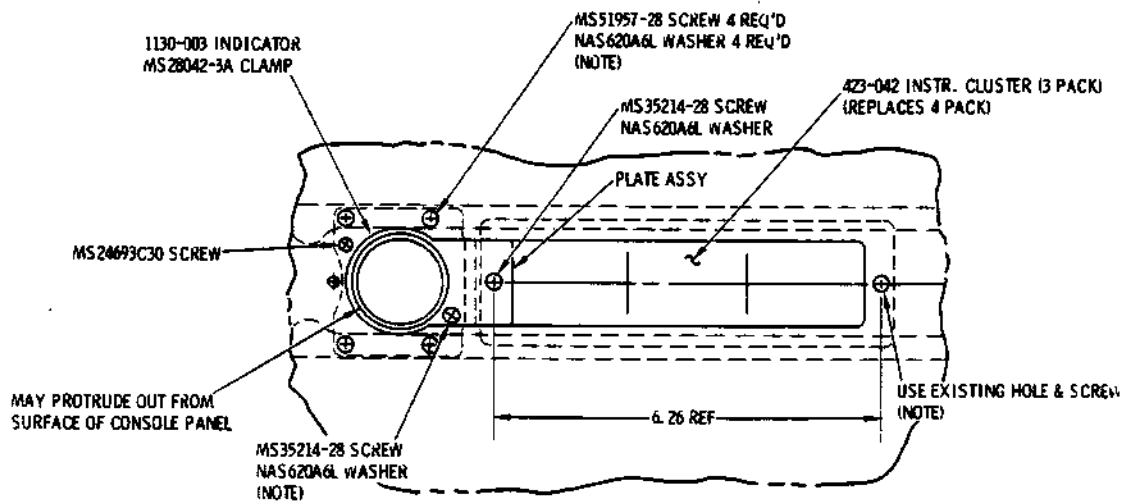


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Figure 1. Instrument Cluster 4-Pack Conversion (sheet 2 of 3)



**C** MODIFICATION OF INSTRUMENT PANEL



**NOTE**  
 ELECTRICAL BOND PER  
 BASIC HMI, SECTION 19

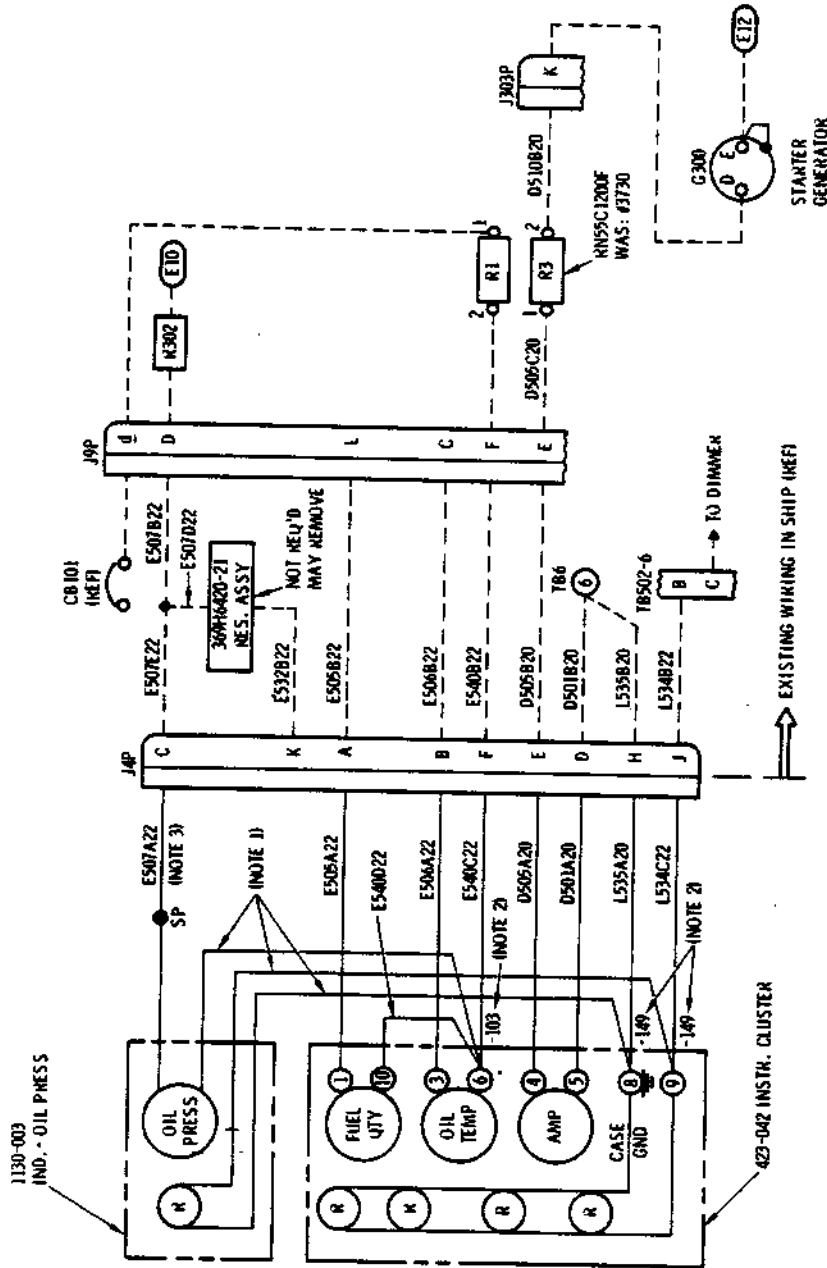
**D** INSTALLATION OF INSTRUMENT CLUSTER 3-PACK  
 AND OIL PRESSURE INDICATOR

88-550-3

Figure 1. Instrument Cluster 4-Pack Conversion (sheet 3 of 3)



88-549



- NOTES:
1. PIG TAIL WIRES FURNISHED WITH INDICATOR
  2. INSTALL PN MS25036-1 J TERMINAL ON PIG TAIL WIRES AND CONNECT TO INSTRUMENT CLUSTER
  3. INSTALL SPLICE AND WIRE E507A22

Figure 2. Wiring Diagram