

### KI-191-1 (14V), KI-191-2 (28V) R44-series HID Landing Lights Installation Kit Instructions

NOTE

Not for E.N.G. or Police versions, or helicopters with battery installed in nose.

NOTE

Visit [www.robinsonheli.com](http://www.robinsonheli.com) to verify kit instructions are current revision.

ITEM NUMBER	PART NUMBER	DESCRIPTION	QTY PER KI-191-1	QTY PER KI-191-2
<b>KIT CONTENTS</b>				
1	KI-191 INSTR.	Kit instructions .....	1	1
2	A130-38	Spacer .....	4	4
3	B204-2	Rivet - Blind .....	1	1
4	B261-3	Splice .....	2	2
5	B557-1	Light - Spot .....	1	1
6	B557-2	Light - Flood .....	1	1
7	B557-3	Ballast - 28V .....	0	2
8	B557-4	Cable .....	2	2
9	B557-5	Ballast - 14V .....	2	0
10	B557-7	Power cord .....	2	2
11	C360-4	Stiffener (Revision G or subsequent) .....	1	1
12	MS21919WDG4	Clamp .....	1	1
13	MS27039C0816	Screw .....	4	4
14	MS21042L08	Nut .....	4	4
15	NAS1149FN432P	Washer .....	1	1
16	NAS1149FN832P	Washer .....	4	4
17	NAS9301B-4-02	Rivet - Blind (or NAS1919B04S02) .....	4	4

#### **Required Special Tools**

- Wire insulation stripping tool
- AMP 59824-1 ratchet-type crimping tool, or equivalent, for pre-insulated terminals & splices

**Kit Instructions**

1. Verify kit contents match above list. Contact RHC Customer Service if any parts are missing or damaged.
2. Review instructions before installation. Contact Technical Support if you have questions.
3. Refer to Figure 4. Remove C526-1 landing light retainer and landing lights. Discard lamps. Remove and discard MS25171 nipples from wires -114, -115, -116, and -117. Route wire ends down along inside of chin then up thru hole in C408 panel per Figure 4. Temporarily secure wire ends away from work area.
4. Remove one screw from lower edge of upper console on both sides and pivot console up & aft. Protect instrument face with foam or equivalent.
5. Remove any installed ballast plates and record both their weight and calculated longitudinal moment in table in step 23.

**CAUTION**

Inadvertently adjusting nose ballast may adversely affect aircraft empty weight and CG.

6. Refer to Figures 1 & 2. If C361-1 panel has rectangular cutout shown, proceed to step 11.
7. Refer to Figure 1. Fabricate cutting template or mark rectangular cutout on C361-1 panel as shown (ballast upper bolt holes may be used to secure template to aft side of panel). Protect area with towels to catch debris.
8. If applicable, remove any stiffener overlying marked cutout area and replace drilled-out solid rivets on C359 panel flanges with supplied NAS blind rivets. Trim C361-1 panel with router, nibbler, or other suitable tool and remove cutout portion. Use caution not to damage C359 panel flanges, landing light support, and chin assembly. Remove template (if installed). Radius corners and smooth hole edges using barrel sander or equivalent and deburr.
9. Refer to Figures 1 & 2. Drill out two existing rivets in locations shown. Using holes in supplied C360-4 stiffener as a guide, fabricate a drilling template to index off these rivet holes and mark locations of two required 0.190-inch diameter bolt holes. Drill both bolt holes in C361-1 panel.
10. Refer to Figure 2. Using short NAS6603 bolts or equivalent, temporarily install C360-4 stiffener assembly on front side of C361-1 panel so rivet holes in panel align with rivet holes at stiffener ends. Using rivet holes in panels as a guide, drill 0.128-inch diameter hole thru C359 panel flange, C361-1 panel, and stiffener in two places. Remove stiffener and deburr holes. Reinstall stiffener, ensure all holes align, and attach stiffener to panel using two NAS blind rivets. Remove NAS6603 bolts. Clean up debris.

### Kit Instructions (continued)

11. Select a combination of A941-5 and/or -6 ballast plates to equal the weight removed in step 6 less 1 pound. Record both weight and calculated longitudinal moment of selected ballast plates in table in step 23. Install selected ballast plates with NAS6603 bolts, using bolt length as required for two-four threads exposed beyond nutplate. Torque NAS6603 bolts to 50 in.-lb and torque stripe.

NOTE

Only A941-5 & -6 ballast plates are compatible with HID landing lights.

Old Part Number	Weight	New Part Number	Weight
A941-2	0.25 lb	A941-5	0.25 lb
A941-3	1.00 lb	A941-6	1.25 lb

**TABLE 1. BALLAST PLATE WEIGHTS (see above NOTE)**

12. Refer to Figure 4, Detail A. On B557-7 power cords, twist both white power-wire conductors together and crimp them to one side of a B261-3 splice. Remove ring terminals from -114 & -115 wires, strip 0.25-inch wire insulation from each, twist conductors together, and crimp both to other side of same B261-3 splice.
13. Twist both B557-7 power cord black ground-wire conductors together and crimp to one side of a B261-3 splice. Remove ring terminals from -116 & -117 wires, strip 0.25-inch wire insulation from each, twist conductors together, and crimp both to other side of same B261-3 splice.
14. Wrap wiring and splices with existing B161-4 spirap as shown.
15. Refer to Figure 3. Mark screw holes for B557 ballast on C359 panels. Drill two 0.170-inch diameter (No. 18 drill) holes for each ballast in C359 panels and deburr holes. Clean up debris.
16. If a factory-installed fire extinguisher is on forward portion of C359-1 panel then one blind rivet securing the fabric pocket may interfere with left B557 ballast installation. Position left B557 ballast on inside of C359-1 panel and verify clearance with blind rivet. As required, remove original blind rivet and install replacement B204-2 blind rivet from inside of C359 panel so lower-profile head will provide clearance with B557 ballast.
17. Refer to Figure 4, Detail B. B557-1 & -2 lights may fit differently inside C525-1 support than filament lamps, causing C526-1 retainer misalignment. As required, enlarge holes in C525-1 support (a small drum sander works well) for clearance for the "curved portion" of B557-1 & -2 lights. Clean up debris.

NOTE

C525-1 support is fiberglass; wear appropriate protection during trimming.

### Kit Instructions (continued)

17. Install two B557 ballasts. Route spirap-wound landing light wiring through MS21919WDG4 clamp and secure clamp to aft screw of left ballast. Connect power cord connectors to B557 ballasts. Trim spirap to fit.
18. Connect a B557-4 cable to each light, install lights, and secure with C526-1 retainer.

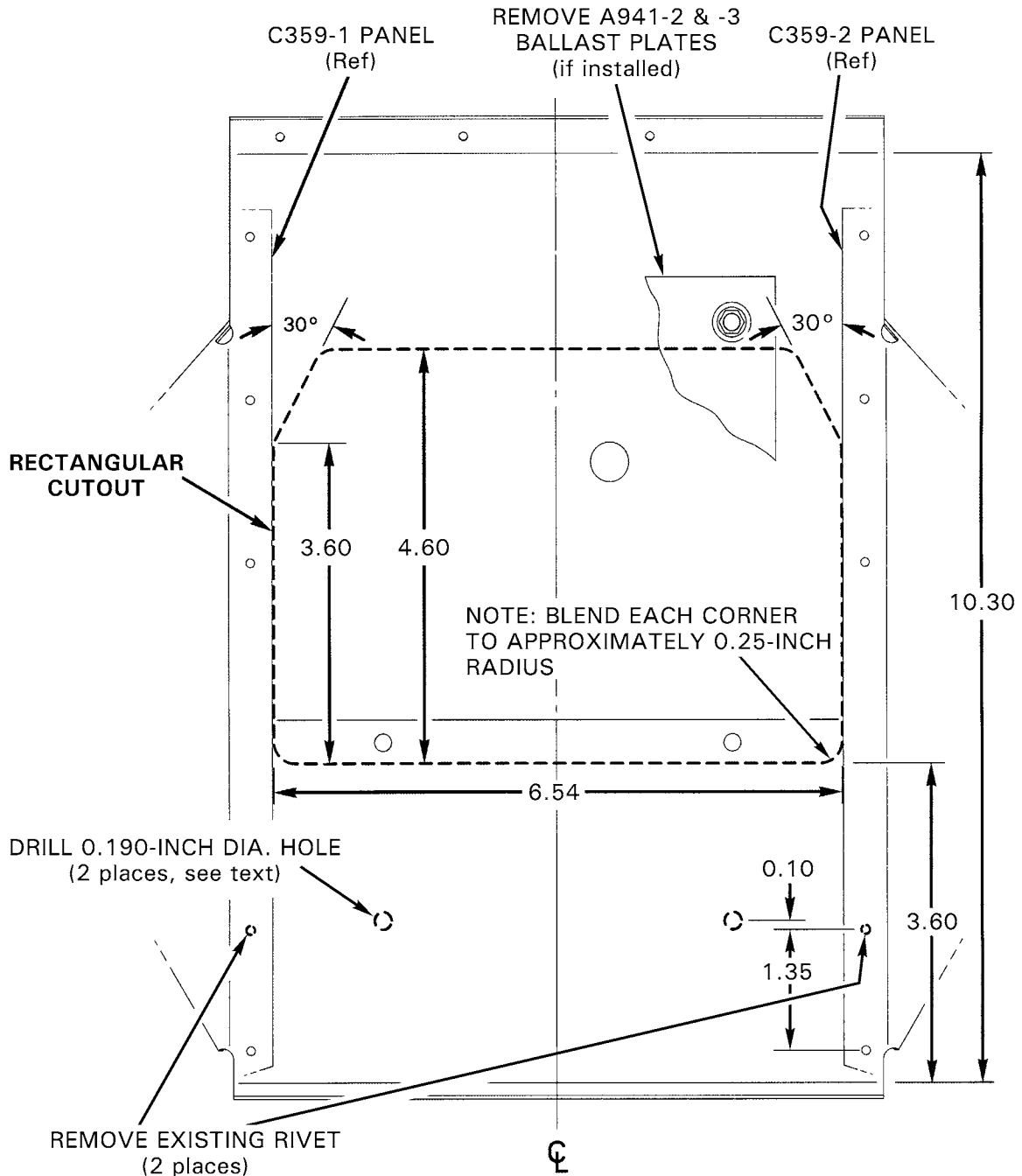
**NOTE**

Lights are different part numbers; position lights per Figure 4.

19. Connect B557-4 cable from each light to respective B557 ballast.
20. Remove all tools and towels. Clean debris from area. Close upper console and secure with screws.
21. Pull CLUTCH circuit breaker, turn on MASTER switch, engage CLUTCH switch, and turn on landing light switch. Verify proper light operation. Turn off landing light and MASTER switches, disengage CLUTCH switch, and reset CLUTCH circuit breaker.
22. Revise helicopter's Equipment List, Weight and Balance Data Sheet in Pilot's Operating Handbook Section 6 to reflect this installation by incorporating following data (lateral change is negligible):

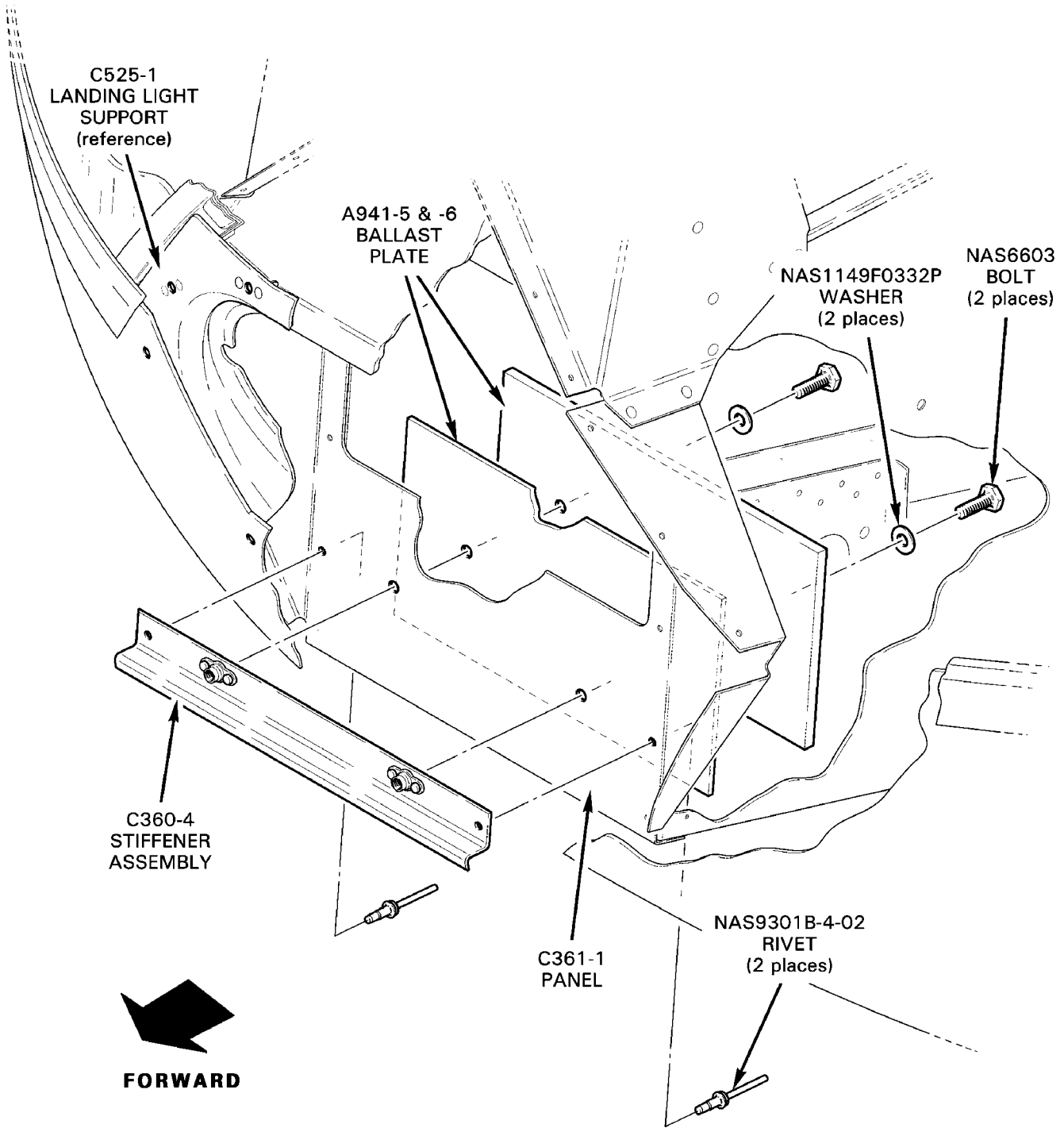
	Weight (pounds)	Longitudinal Arm (inches)	Longitudinal Moment (inch-pounds)
A941-2 and/or -3 ballast removed (step 5)	- _____	7.0	- _____
A941-5 and/or -6 ballast added (step 11)	+ _____	7.0	+ _____
HID Landing Lights installation	+1.0	10.0	+10

23. Make appropriate maintenance record entries.

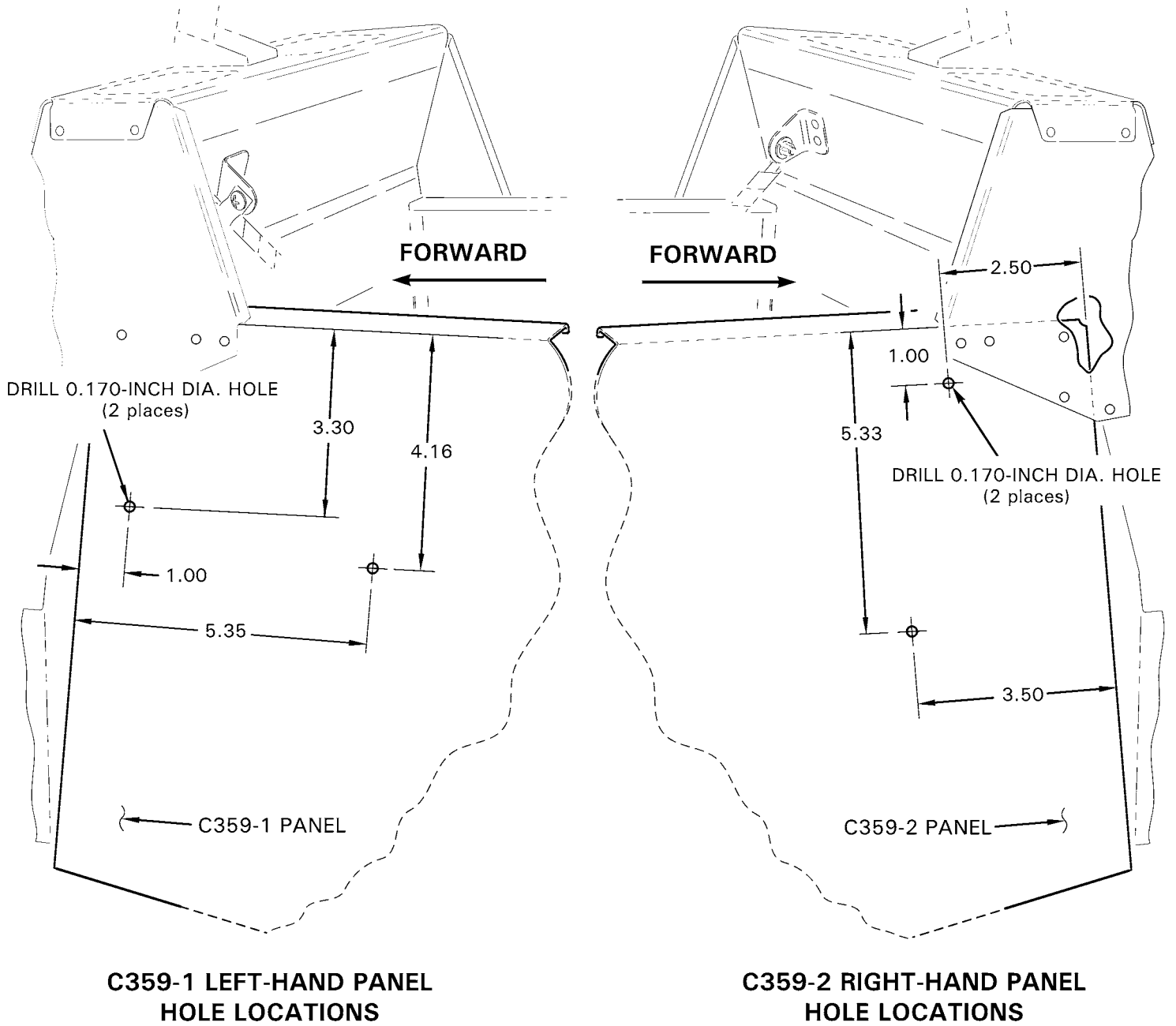


(VIEW LOOKING FORWARD, ALL DIMENSIONS IN INCHES)

**FIGURE 1 C361 PANEL ALTERATION**



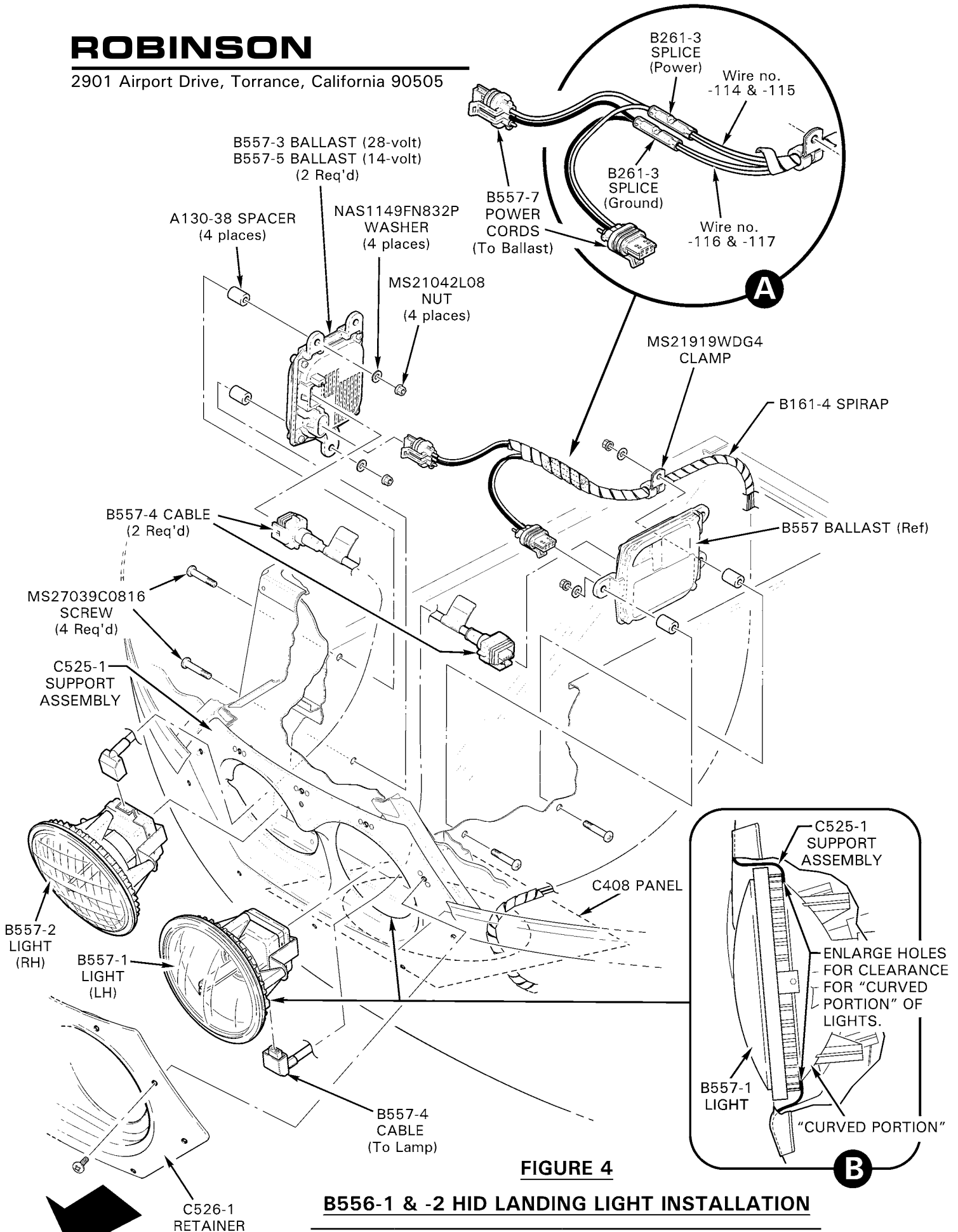
**FIGURE 2 C360-4 STIFFENER ASSEMBLY INSTALLATION**



**FIGURE 3 C359 PANELS ALTERATION**  
(all dimensions in inches)

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**FIGURE 4**

## **B556-1 & -2 HID LANDING LIGHT INSTALLATION**

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Revision B

R44-series HID Landing Lights Kit

**FORWARD**