

# SERVICE BULLETIN



Service Bulletin No.: D42L-25-01 Rev. 0

Date Issued: December 02, 2009

Title: DA42 L360 Ballast Installation

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- 1. ATA Code:** 2550
- 2. Effectivity:** All DA42 aircraft with TCCA STC SA09-54 or FAA STC SA02725NY installed.
- 3. General:** This Service Bulletin addresses the installation of an adjustable ballast system mounted on the nose bulkhead of the DA42 L360 aircraft.
- 4. Compliance:** Compliance with this service bulletin is Optional.
- 5. Approval:** Engineering data referenced or contained in this service bulletin is approved as part of the STC design.
- 6. Labour:** Approximately 3 hours will be required to accomplish this Service Bulletin.

*This estimate is for direct labour performed by a technician and it does not include setup, planning, familiarization, cure time, part fabrication or tool acquisition.*

7. Material:	Description	Qty	Qty	P/N
		LH	RH	
	Ballast Base Plate Assembly	3	3	C61-2550-102-001
	Ballast Case	1	1	C61-2550-109-001
	Ballast Mounting Bracket Assembly LH	1	-	C61-2550-108-001
	Ballast Mounting Bracket Assembly RH	-	1	C61-2550-108-002
	Cylindrical Ballast Assembly	3	3	C61-2550-106-001
	Cylinder Strap	3	3	6070
	Neoprene Foam Tape – 50mm Long	6	6	892-361
	Placard	1	1	C61-1133-102-001
	Screw, Countersunk	12	12	MS24694-C55
	Screw, Pan Head	3	3	AN525-10R14
	Washer, Flat	3	3	NAS1149F0332P

The above materials can be ordered as a LH (DA42L-25-01-AMK0-LH) material kit only, or a LH and RH (DA42L-25-01-AMK0) material kit.

Materials that are required, not supplied, and are to be procured locally are as follows:

MGS Epoxy Resin	A/R	L20 / H91
OR		
3M Epoxy Adhesive	A/R	DP-420
Multipurpose Grease	A/R	Aeroshell 22

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**8. Special Tools:** Not Applicable.

**9. References:** Diamond Aircraft Industries Inc. Drawing: C61-2550-101-001.  
Shown in Figures 1 through 4.  
DA42 Series Airplane Maintenance Manual, Document # 7.02.01.

## 10. Accomplishment Instructions

- 10.1 Open the nose baggage compartment doors. Remove any loose items.
- 10.2 Remove the carpet panel and velcro strips from the nose bulkhead.
- 10.3 Cover the remaining carpet to protect it from damage while the work is being done.
- 10.4 Dry fit the LH (P/N C61-2550-108-001) and RH (P/N C61-2550-108-002) Ballast Mounting Bracket Assemblies as shown in Figure 1.

**NOTE:** Bonding of the RH Ballast Mounting Bracket is optional.

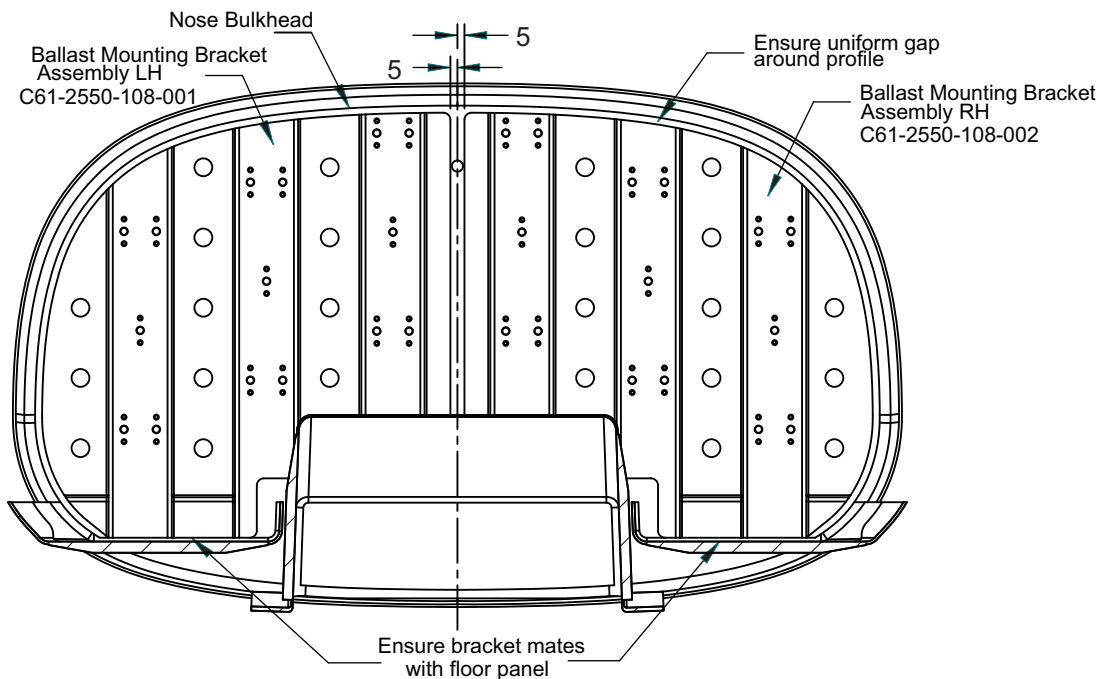


Figure 1 – Ballast Mounting Bracket Bonding Position

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10.5 Mark the location of the Ballast Mounting Brackets.

NOTE: Make sure that the outboard Cylindrical Ballasts will clear the baggage door lock receptacles.

CAUTION: DO NOT SAND THROUGH THE CARBON LAYER. THIS WILL CAUSE DAMAGE TO THE AIRCRAFT.

10.6 Prepare the bulkhead surface for bonding by sanding with 120 grit sandpaper

CAUTION: WIPE THE ISOPROPYL ALCOHOL DRY IMMEDIATELY. DO NOT PERMIT THE ISOPROPYL ALCOHOL TO FLASH DRY ON THE BULKHEAD SURFACE. THIS WILL PREVENT SURFACE CONTAMINATION ON THE BULKHEAD SURFACE.

10.7 Wipe the sanded surface clean with isopropyl alcohol.

10.8 Follow the bonding procedure, reference AMM # 7.02.01 Chapter 51.

10.9 Mix L20 resin to H91 hardener to a ratio of 100:27 by weight.

10.10 After mixing, add Cotton Flocks and Aerosil as per Table 1.

MATERIAL	WEIGHT IN GRAMS								
	50	100	150	200	250	300	350	400	450
Mixed Resin	50	100	150	200	250	300	350	400	450
Cotton Flakes FB1	6	11	17	22	28	33	39	44	50
Sil Cell 300	4	7	11	14	18	21	25	28	32

Table 1 - L20 / H91 Paste Mixing Ratio

10.11 Remove the peel ply and brush both the bracket and bulkhead bonding surfaces with a light coat of mixed resin.

10.12 Apply the mixed paste to the bonding flanges of the brackets and align as per the markings from step 10.5. Press the bracket against the bulkhead firmly and ensure paste squeeze-out from each flange.

10.13 Clean the excess paste squeeze out from the bulkhead to make sure that the drain and vent holes remain open as shown in Figure 2.

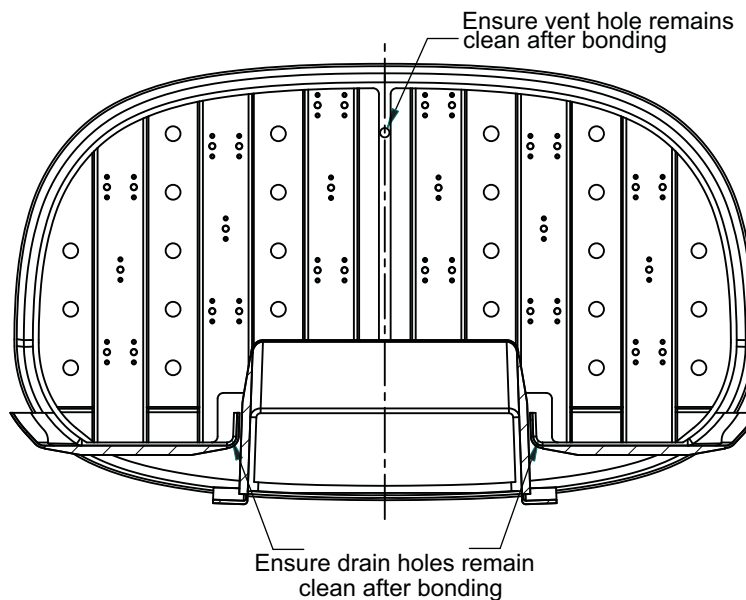


Figure 2 – Drain / Vent Hole Locations

- 10.14 If L20 resin / H91 hardener is not available, bond with DP-420 in accordance with steps 10.11 to 10.13 and the manufacturers instructions.
- 10.15 Cure the bonding area for 1 hour at room temperature. Maintain pressure against the bracket until the cure is complete.
- 10.16 Post-cure the bonding area for a minimum of 4 hours at 50-55°C (122-131°F).
- 10.17 Inspect the bonding area to make sure that there are no voids or cracks.

- 10.18 Install 6 (3 if LH only is installed) Ballast Base Plate Assemblies (C61-2550-102-001) using 24 (12) countersunk screws (P/N MS24694-C55) as shown in Figure 3.
- 10.19 Install 6 (3 if LH only is installed) Cylinder Clamps (P/N 6070) using 6 (3) pan head screws (P/N AN525-10R14) with 6 (3) thin washers (P/N NAS1149F0332P). Turn the clamp clips to face inboard.

**NOTE:** Install the screws carefully to make sure that the thread does not bottom out on the nose bulkhead.

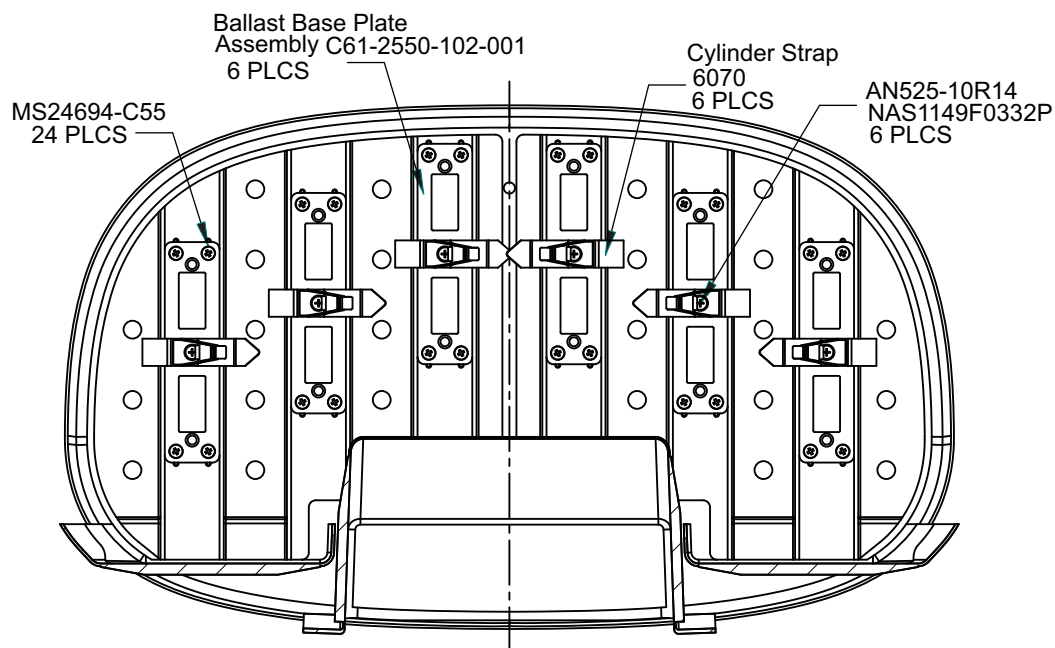


Figure 3 – Ballast Base Plate Assembly and Cylinder Clamp Installation

- 10.20 Install two Neoprene Foam Tape strips (P/N 892-361) to the inside of each Cylinder Clamp as shown in Figure 4.

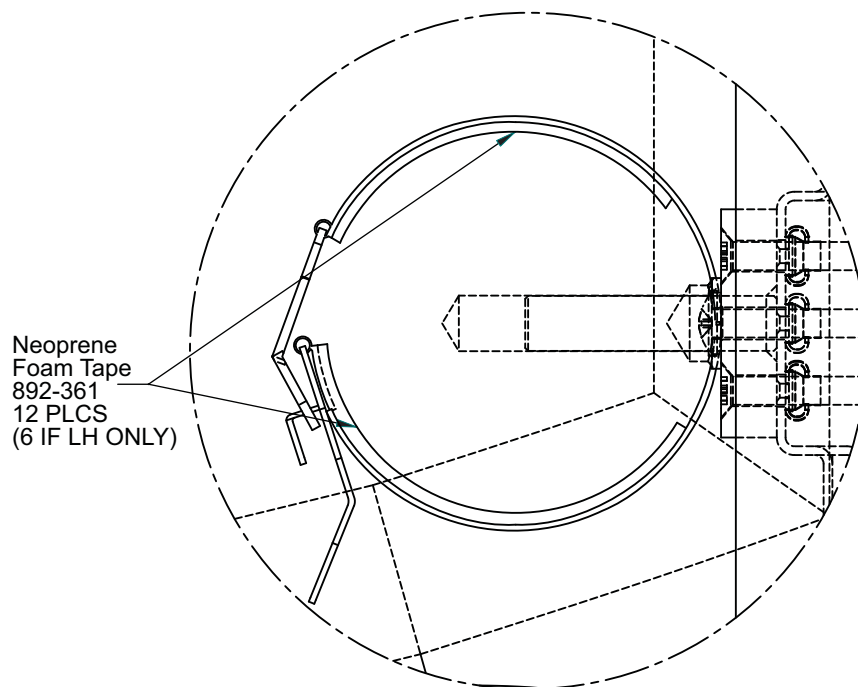


Figure 4 – Neoprene Foam Tape Installation

- 10.21 Apply Aeroshell 22 to all of the dowel pins on the Ballast Base Plate Assemblies.
- 10.22 Open the cylinder clamps and install the necessary amount of Cylindrical Ballasts.
- 10.23 Close the cylinder clamps. Make sure that the Cylindrical Ballasts are held securely.
- 10.24 Install placard (P/N C61-1133-102-001) on the inside of both nose baggage doors, above the baggage limit placard.
- 10.25 Close the nose baggage compartment doors.
- 10.26 Insert Supplement S1 into the Airplane Flight Manual (AFM) D42L-AFM-002.
- 10.27 Make a log book entry that this Service Bulletin has been incorporated.

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**11. Weight and Balance:** Make the following adjustments to the aircraft weight and balance.

NOTE: Instructions for loading the ballast and adjusting the ballast are contained in the AFM (D42L-AFM-002).

ITEM	WEIGHT (kg) (lbs)	ARM (m) (in)
DA42L Ballast System – LH Fixed Provisions	+1.75 (3.86)	+0.065 (2.56)
DA42L Ballast System – RH Fixed Provisions	+1.75 (3.86)	+0.065 (2.56)
DA42L Cylindrical Ballast EACH - Adjustable	+5.080 (11.20)	+0.065 (2.56)

Table 2 - Weight and Balance

**12. Availability:** Contact Diamond Aircraft.

To obtain satisfactory results, procedures specified in this service bulletin must be accomplished in accordance with accepted methods and current government regulations. Diamond Aircraft Industries Inc. cannot be responsible for the quality of work performed in accomplishing the requirements of this service bulletin. Diamond Aircraft reserves the right to void continued warranty coverage in the area affected by this service bulletin if it is not incorporated. If you no longer own the aircraft to which this service bulletin applies, please forward it to the current owner and send the name of the current owner to Diamond Aircraft Industries Inc. at the address below.

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