AA TRUCK TALK - 242-A HEAVY DUTY EXPRESS BODY

By Neil Wilson of Boulder, Colorado – April 2013

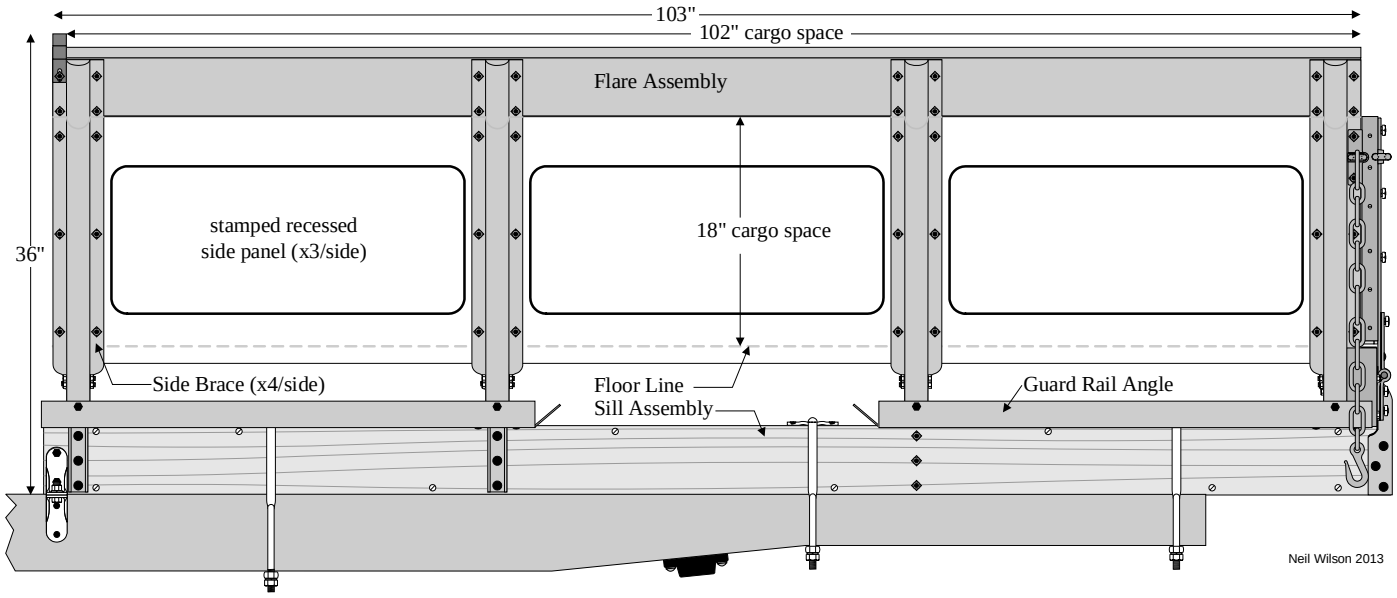


Figure242A01 - Heavy Duty Express Body (type 242-A) Left Side

Introduction

This article is about body type 242-A Heavy Duty Express which was introduced in February 1931 for the AA131 chassis. Figure242A01 illustrates a side view of this cargo body. The supplier was the Murray Corporation of America, 1926-1965; Detroit, Michigan. Murray also supplied the 199-A Ice body (another AA cargo body introduced in 1931). Both of these body types were carried over to the 1932 production line.

The light duty 1931 express bodies (195-A and 197-A) were production body types for the AA131 and AA157. Ford entertained the production of an AA157 heavy duty express and a prototype was produced and photographed (shown at the end of this article). However, this body type was not added to the production line.

According to the book "Ford Trucks Since 1905", the Ford factory issued a letter in 1932 to branches urging that the 242-A be aggressively merchandised to coal dealers to boost sales of this slow moving body.

By the end of 1932, Ford discontinued production of this cargo body plus others and removed them from advertising literature. However, disposition of inventory took several years (into 1934). Discontinued body types were modified by changing the sill locations to allow the bodies to fit on the 1932 and later frames. The discontinued body types were:

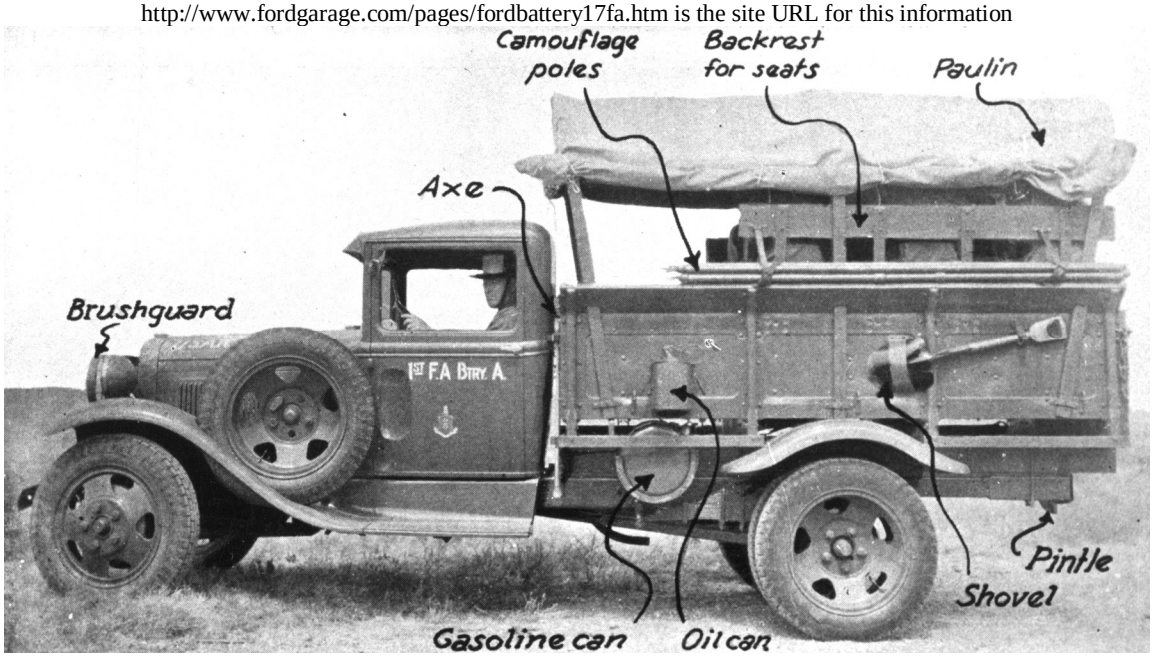
- 199-A Ice (Murray supplied)
- 229-A Service (Briggs supplied)
- 239-A Meat Packers' Express (Briggs supplied)
- 242-A Heavy Duty Express (Murray supplied)
- 330-A Bus (Union City supplied)

References: The Ford Body Parts List, MAFFI parts index, and some Ford engineering drawings were used as reference material. In addition, existing examples of this body type are the basis for most of the article's details, drawings, and pictures. One example is a 1933 HD express truck owned by Jordon Beller. Jordon supplied many detailed pictures of his truck as well as measurement conformation. The other example is a 242-A cargo body in my back yard (another project waiting to happen). It came from club member Glen Clayton. Glen said that it had been used to haul coal part of its life. This body had parallel sills when brought home. Therefore it was originally mounted on a 1932 or later truck chassis. The sills have since been repositioned to a tapered design to fit the AA chassis frame. To my knowledge, these are the only two 242-A bodies existing today. I am sure more will surface in the future.

HD Express Military Service: The Ford Garage web site contains photos and information of the US Army's venture with a motorized field artillery gun battery. The unit was the "17th 1st Field Artillery Battery A" based at Fort Bragg, North Carolina.

The unit included seventeen 242-A Heavy Duty Express trucks (plus others) all built and procured by government purchase order directly to the Ford Motor Company. The trucks were specially built for the battery to military specifications and were delivered on April 29, 1932. The 242-A gun trucks were modified to include canopy tops and equipment (some shown in figure242A02). A bush guard and dual front fender spare wheels were part of the makeup of these trucks. These gun trucks towed M1897 "French 75" howitzers and carried crew, supplies, and munitions.

Figure242A02 - 1931 HD Express Truck - Military Gun Truck
Modified for Canopy Top Installation
http://www.fordgarage.com/pages/fordbattery17fa.htm is the site URL for this information



Overview

The first heavy duty express truck bodies were installed on the AA131 chassis with frame assembly AA-5005-B. This 171-5/16" long frame was used from January 1930 thru March 1931.

Starting in April of 1931 a new, 181-5/16" long frame (AA-5005-D) was put into production. This longer frame was used on all AA body types except the 229-A service body and dump bodies. The additional 10" longer frame with a heavier duty rear section provided better support for the longer bodies released in 1931. Figure242A03 shows the two frame designs.

The heavy duty express had a 102" long by 60" wide by 18" high cargo loading space. The physical dimensions were:

- 73" wide (outside edges of flare boards)
- 103" long (length at flare boards)
- 36" high (sill bottom to top of front panel center)

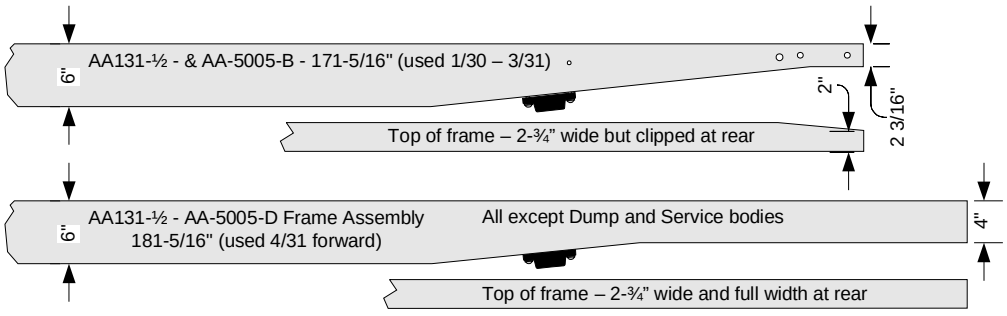
This body had a floor design similar to the platform bodies with wood sills and metal cross sill supporting the 1-1/4" thick floor board. Skid strips covered the space between floor boards.

The side panels, front panel, and tail gate were all metal exteriors with 1" thick wood lined interior. Each side included a flare assembly (also with metal exterior and wood interior).

The tail gate had four strap hinges with skid strips on the inside to allow loading of cargo with the tail gate lowered. Angle iron framed the top and side edges for strength and to conceal the panel flanges which were nailed to the interior wood edges.

The tail gate used an initial 128-21/31" long chain fed through rings and loops as shown in figure242A04. In March 1931 a new design started production using short side chains which hooked to eye brackets attached to the tail gate (basically the same design as the 89-A express and 78-A pickup bodies).

Figure242A03 - AA131 Frames for the 242-A HD Express Truck



Note the differences in the two frame lengths and the 4" depth of the AA-5005-D frame. These differences resulted in changes to the u-bolt mounting hardware for the 242-A body type as well as other cargo bodies which started in production in early 1931.

Typical HD Express Truck: Figure242A04 shows one of the first HD Express trucks off the assembly line. This truck has the pre-April frame and the initial tail gate chain design. These trucks came standard with dual rear wheels and unique rears fender as shown. Fenders, aprons, head lamp cases, and radiator shell are bright enamel due to the dipping process used for these parts.

Note the light color on the hood, cab, and cargo body which was not polished (a standard finish for the commercial line). The cargo body was painted after assembly (inside, outside, and bottom) all the same color with a satin enamel to maintain the same finish as the pyroxylin lacquer used on the cab and hood. Also note that the rear u-bolt shows it was painted body color from the frame up (not a standard production feature).

The four side braces and the three side panel (with recessed stampings) can be seen. The tail gate panel is flat with no stamped recesses. Both sides of the flare assemblies can be seen.

The hardware used at the rear floor cover differs from that found on bodies starting early to mid 1931 as follows:

- Reinforcement to cover panel hardware changed to hex. bolts
- Lower tail gate hinge hardware changed - nuts/locks to outside
- Guard rails and side braces to cross sill hardware changed from rivets to bolts

The chassis is “all black” with no plated hardware showing. This is due to the “assembly line painting” operation which covered otherwise plain and plated parts. Even the rear backing plate brake adjusting wedge is covered with black paint. The backing plate was installed after the “assembly line painting” operation.

The wheels are the 1930 thru early 1931 design with a dipped black enamel finish. The wheel lock rings, wheel nuts, and hub caps were cadmium plated.

Figure242A04 - 242-A HD Express Truck - Early 1931

Body Details

Floor Sill Assemblies

The left floor sill assembly can be seen in figure242A01. Sills were made up from two 1-1/16” thick boards like the 1931 AA platform bodies. The finished size was 5-3/8” high by 2-1/8” thick by approximately 8’ 10-1/16” long. The two boards were assembled together with ten #12 flat head wood screws. There were two screws a few inches from each end and six screws located in a top-edge/bottom-edge pattern across the sill. These screws cleared the locations of brackets attached to the sides of the sills (see figure242A01). Each sill had three sill plates attached to the top with two #12 wood screws. Plates supported u-bolt mounting hardware. There were right and left sill assemblies (part ids AA-242040 and 41).

Floor Cross Sills

There were four 5’ 6” long, stamped steel, cross sills which set across the sill assemblies. Other than the pattern of punched holes in the side faces for hardware attachment, the cross sills were identical. They were shaped like a top hat as can be seen in Figure242A05.

“U” shaped brackets tied the #1, 2, and 3 cross sills to the sills. The brackets were installed on the outside face of the sills except for cross sill #3 as shown in figure242A01. Details of bracket installation and its 5/16” attachment hardware is shown in the upper-right box of figure242A05. Note the wood filler block to keep the cross sill and bracket from compressing.

The #4 cross sill to sill connection detail is also shown in Figure242A05. There was a filler board located inside of this cross sill. The fill board was installed after the floor was installed and before the sills were installed. The end result was that the floor boards could not be replace without removing the sills. A poor design for future maintenance in my opinion.

Note that there was a larger filler board between the #4 cross sill and the floor rear cover panel. The floor boards extended under the cover panel and over the larger filler board.

Figure$_{242A}$05 - 242-A Cross Sill to Sill Detail

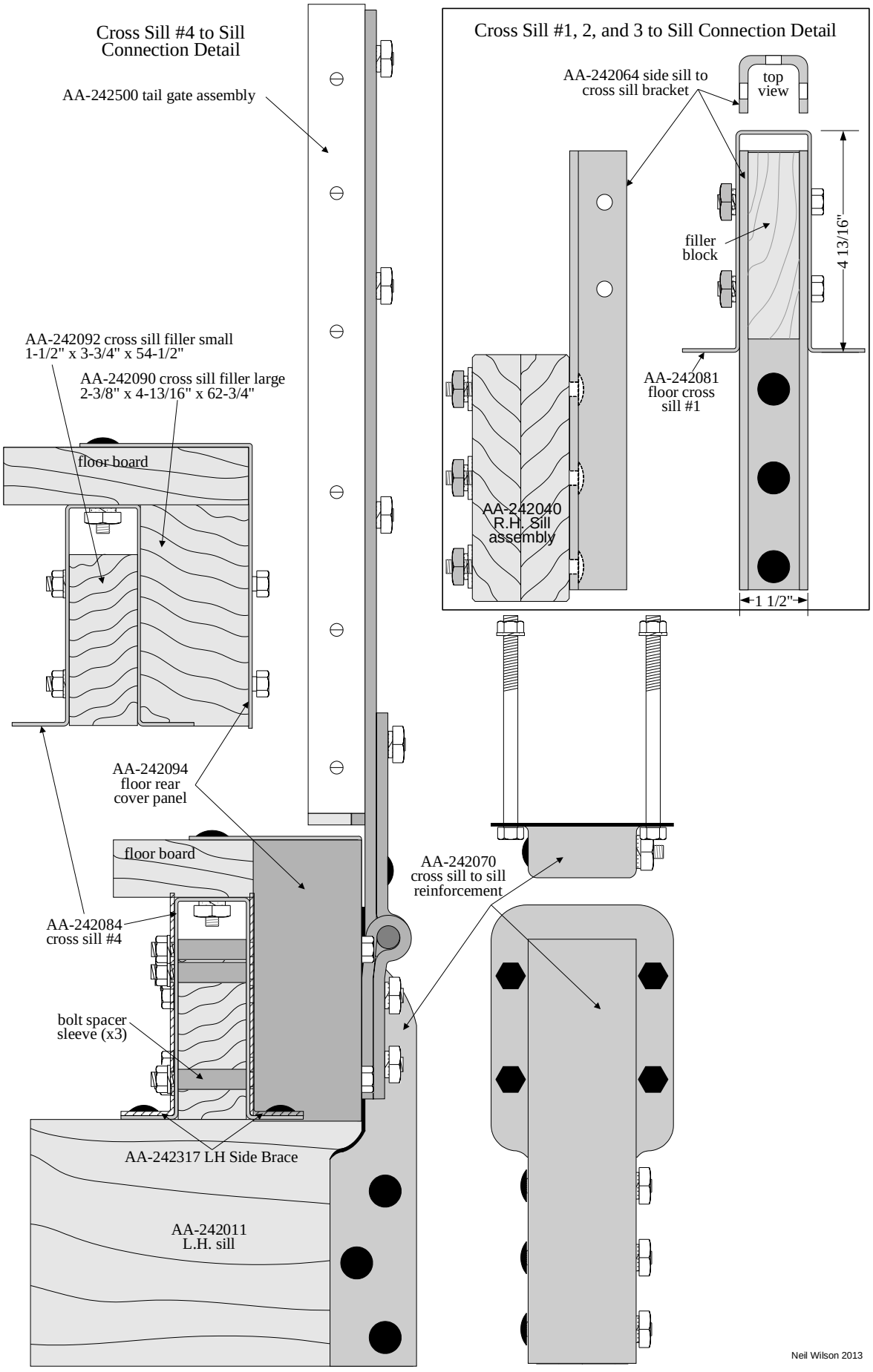
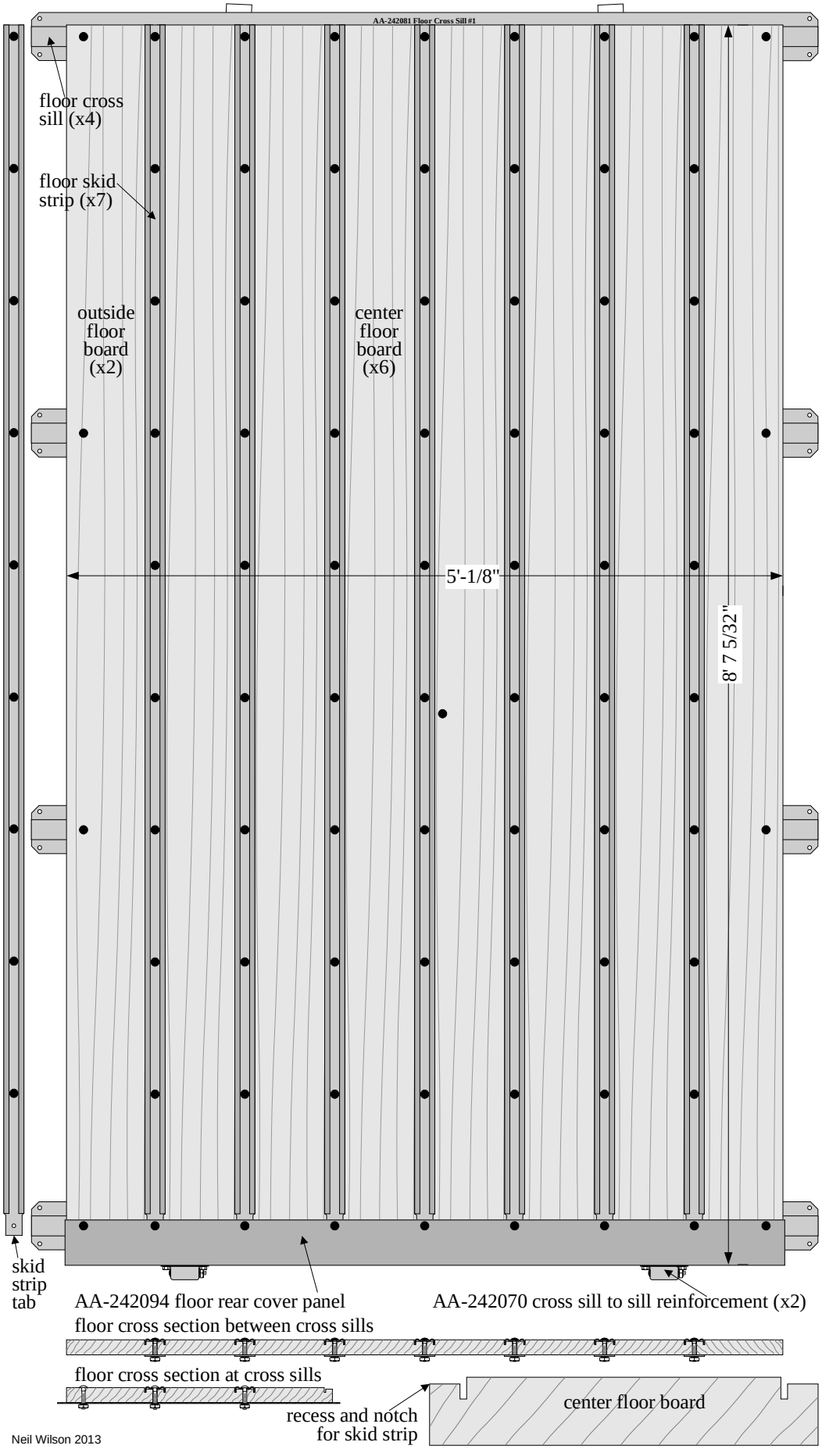


Figure242A06 - 242-A Cargo Floor



Cargo Floor

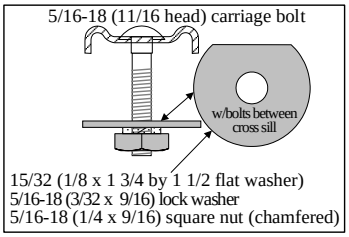
There were eight 103-5/32" long by 1-1/4" thick floor boards. The six center boards were each 7-3/16" wide. The two side boards fit tight against the side boards and were about 7-1/4" wide. Seven skid strips spanned the space between boards and were secured to the cross sills with carriage bolts.

Figure242A06 shows the cargo floor layout. At the bottom of the figure are cross sections showing the floor hardware used at each cross sill and hardware used between sills.

Each floor board was recessed and grooved to lower the skid strips. The skid strip trough was level with the top of the floor boards. Consequently, the tab at the rear of each skid strip fit flush under the rear cover panel.

Figure242A07 shows a larger view of the floor attachment hardware used between cross sills. Hardware at the sills was the same hardware but without the flat washer.

Figure242A07 - Floor Hardware



Side Assemblies

Figure242A01 shows the left side of the body. Figure242A08 shows the outside left-front corner. Each side had four stamped steel braces which were installed at the outer ends of the cross sills with bolts and rivets.

Each of the three side panels was stamped with a recess for strength and style. The sides extended to the bottom edge of the floor boards. Panels had top and bottom flanges nailed to the board assembly edges. Each end panel wrapped the ends of the board assemblies.

At the top of each side was a 7-11/16” wide flare assembly (supported by the four side braces) with a 47.6° angle. This gave the body its overall 73” width. The outside face of the flare assembly was a metal panel as shown in Figure242A04. Figure242A10 shows the flare panel from the inside (the wood is mostly gone).

Guard rails were installed along the lower edge of the braces. These were made of 2” x 2” x 1/8” angle iron. The lower face of these guards angled up at cross sill 2 and 3 for attachment of the rear fenders.

As can be seen in Figure242A08, the guard’s front face, at each end of the body, had a radius which turned inward to give a finished look.

Figure242A08 - 242-A Corner View - Outside

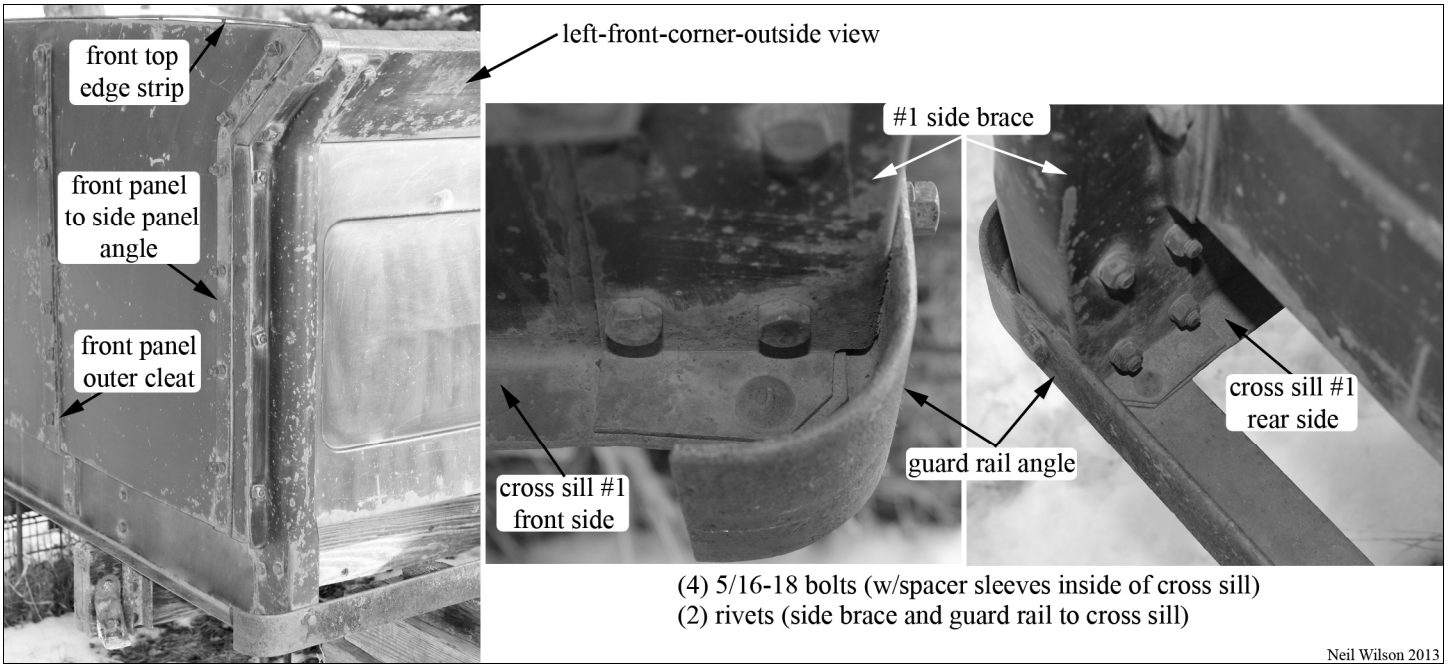
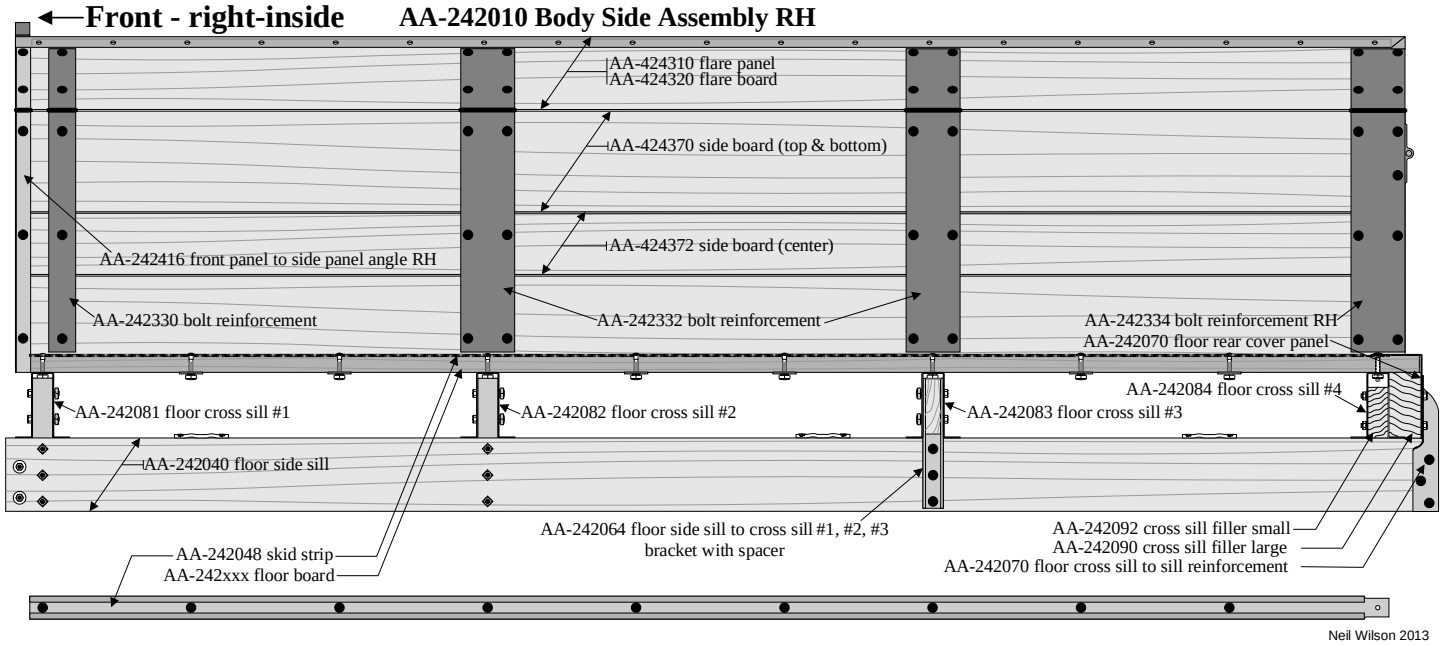


Figure242A09 shows an inside view (right side) of a side assembly lined with 1” thick boards (including the flare assembly). Flat steel bolt-reinforcement plates were located at each side brace to prevent carriage bolt heads from sinking into the boards. The same set of board was used on both side assemblies. An enlarged end view of the shiplap boards is shown in figure242A11

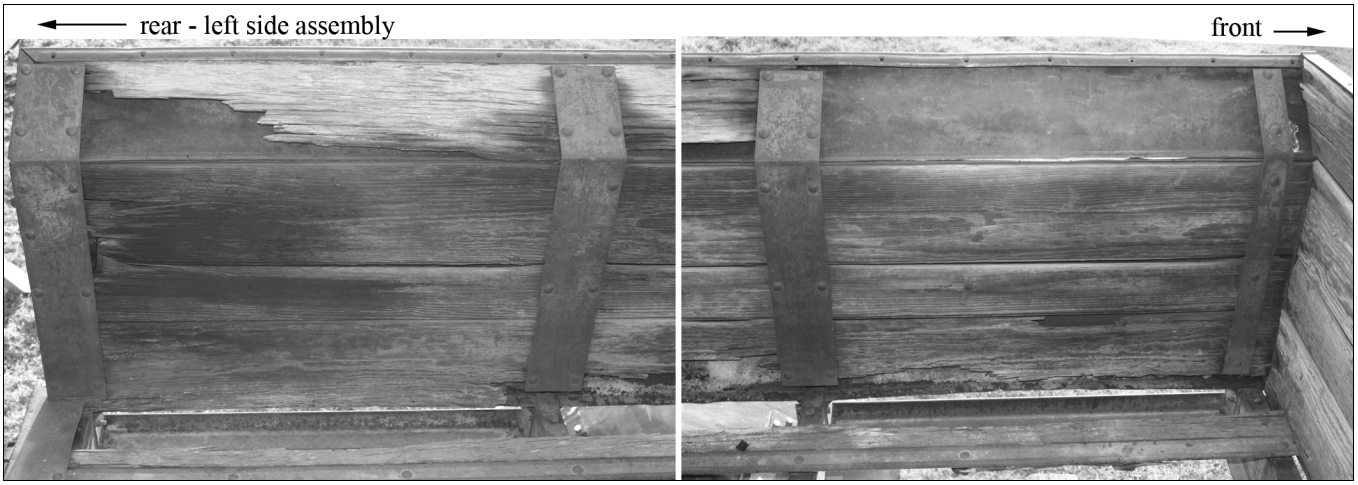
The flare panel wrapped to the top face of the flare board and was secured with oval head, slotted wood crews.

Figure242A10 has two photographs of the left side assembly (inside views) of a 242-A (in need of restoration). The flare panel which wraps the (missing) flare board can be seen.

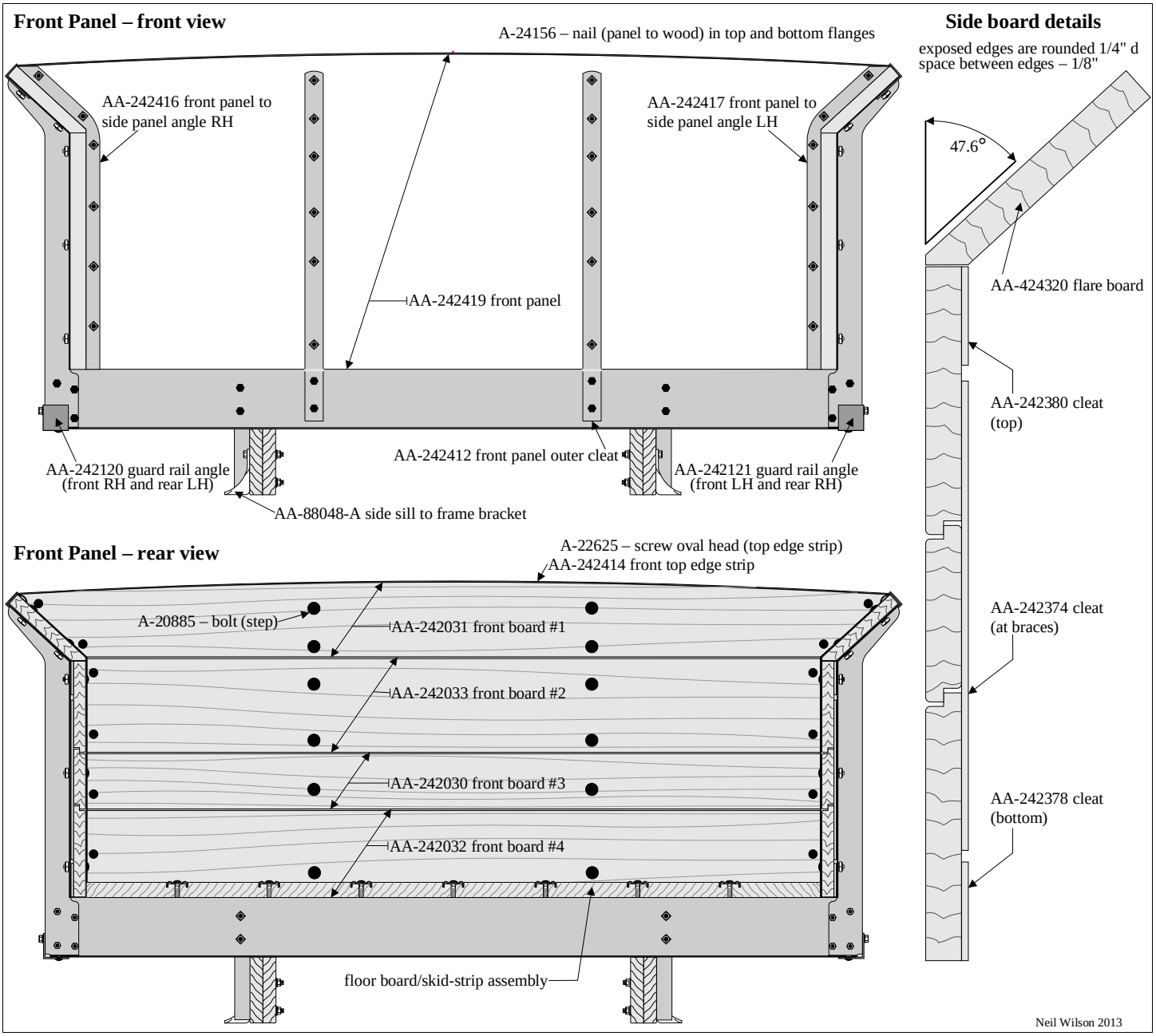
Figure242A09 - 242-A Side Assembly - Inside View



Figure$_{242A}$10 - 242-A - Left Side Assembly - Inside Views



Figure$_{242A}$11 - 242-A - Front Panel Assembly (Inside/Outside Views) and Side Board Details



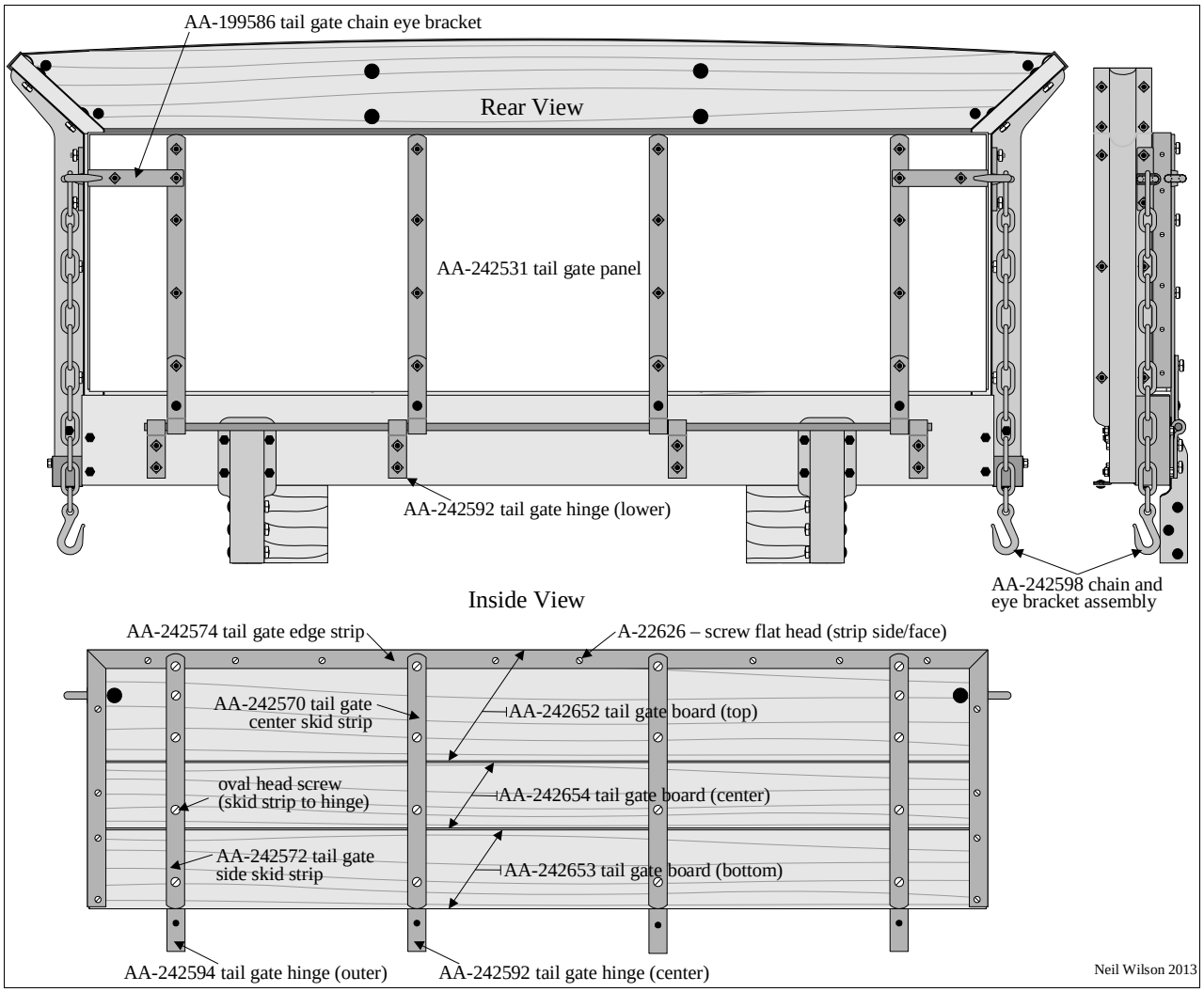
Front Panel Assembly

Like the remainder of the body, the front panel assembly was comprised of an outside metal panel with ship lapped cut, 1" thick boards lining the inside. As can be seen in figure$_{242A}$11, the panel had a slight radius at the top. A 1/8" thick metal finish strip covered the top edge and wrapped to the bottom side of the flare board assembly. Oval head slotted wood screws secured the strip across the top with the strip ends being attached to the upper flare to brace bolts. Two metal 1/4" thick strap cleats reinforced the panel. These cleats were secured with 5/16" large headed step bolts as shown.

Tail Gate Assembly

This assembly also consisted of a metal outside panel lined with 1" thick boards. The tail gate had four outside strap hinges with skid strips on the inside to allow loading of cargo with the tail gate lowered. An angle iron edge strip framed the top and side edges to conceal the panel flanges and edges of the boards. Figure$_{242A}$12 shows the tail gate assembly (rear and inside views). The chain and eye bracket assembly is the second design which started production in early 1931. Figure$_{242A}$04 shows the first design chain arrangement.

Figure$_{242A}$12 - Tail Gate Assembly

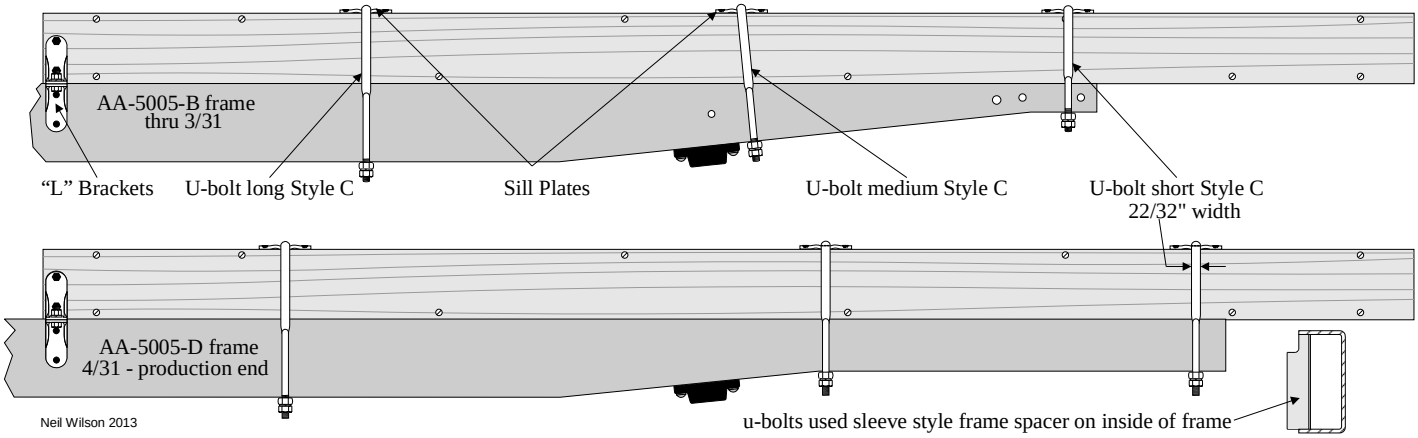


A 242-A Heavy Duty Express body just waiting to be restored!

Mounting Hardware

The body to frame mounting hardware consisted of u-bolts (with sill plates and sleeve style frame spacers) plus "L" brackets. There were two different frames used for the 242-A HD express trucks as shown in Figure242A13. The AA-5005-B frame required a short u-bolt at the rear. The AA-5005-D frame used a second medium length u-bolt at the rear. U-bolts were style C which had a width of 22/32" as shown in Figure242A13. The "L" brackets were stamped steel.

Figure242A13 - 242-A Body Mounting Hardware



Spare Wheel Carrier

The 242-A HD Express truck was provided with a left front fender wheel carrier. This carrier was standard on a number of body types as indicated in Figure242A14.

Figure242A14 - Left Front Fender Wheel Carrier

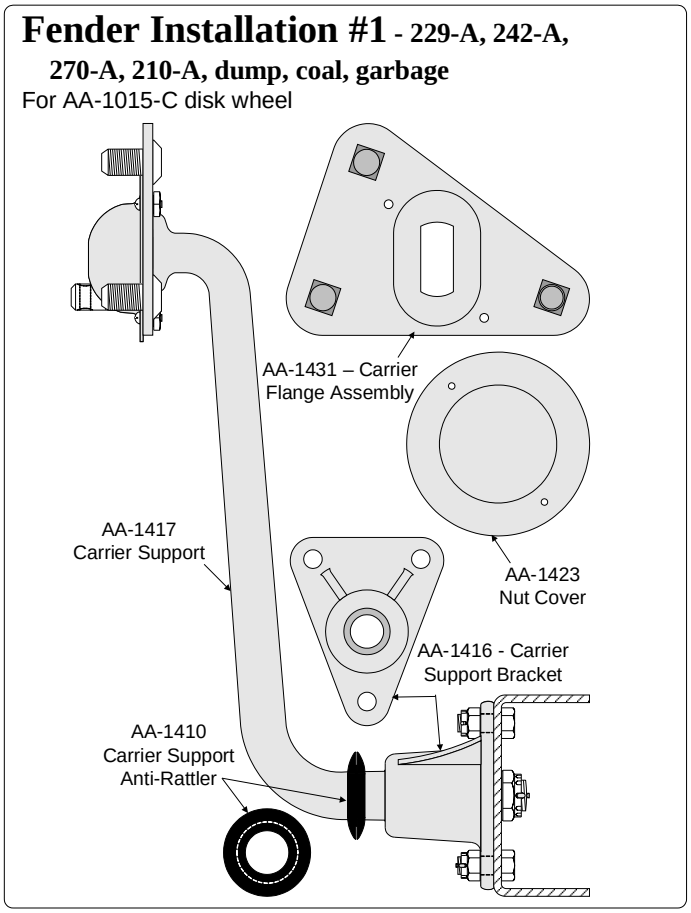
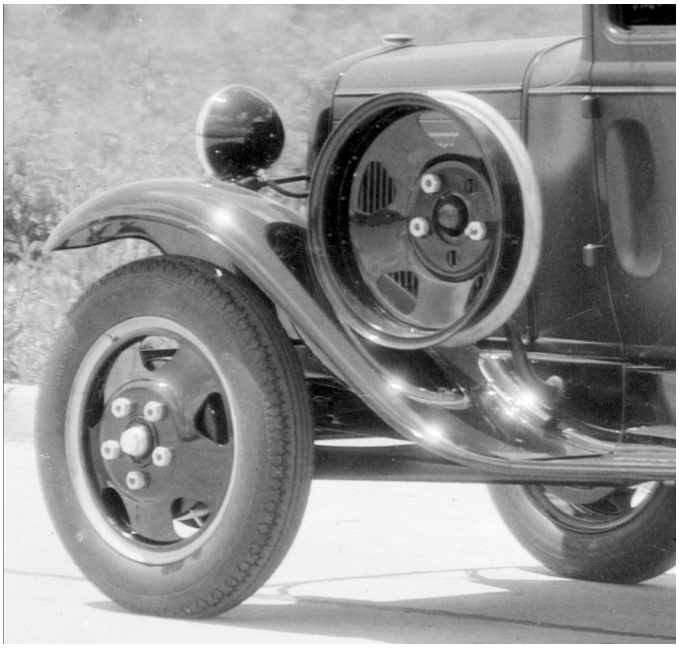


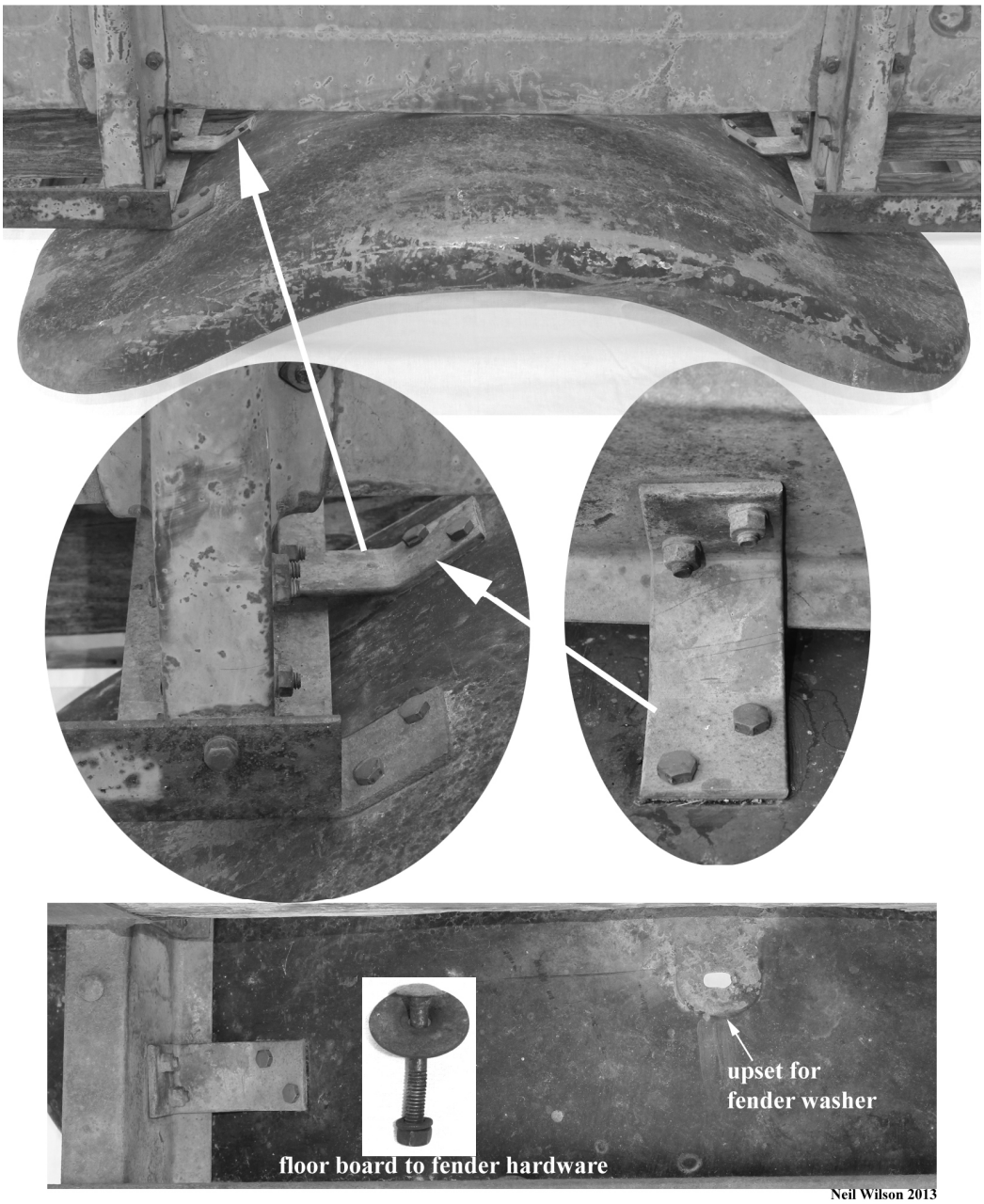
Figure242A15 shows the unique AA cab door which was provided with this carrier. The door had an indentation for the tire. This allowed the door to open far enough for cab entry/exit. The front fender was unique to the AA due to the larger well to accommodate the larger tires used on the AA's. The fender apron can also be seen in this figure. It was also unique to the AA due to the location and size of the hole for the carrier support anti-rattler (i.e. the grommet hole). Note that there is no tire mounted on the wheel. No spare tire was supplied off the assembly line. A spare tire would have been provided by the dealer or customer.

Figure242A15 - Left Front Fender Wheel Carrier



Rear Fenders

Figure242A16 - AA Rear Fender Details (w/199-A Ice and 242-A HD Express)



The 242-A HD express truck was fit with dual wheels as standard equipment. A unique style of rear fender was used for this body type as well as the 199-A ice body. The same AA-16403 fender was used on both sides by swapping it horizontally. As with other fenders, it was dipped in black enamel and therefore had a shinny finish.

Each fender had five body connection points. Figure242A16 shows details of this fender with its connection to the guard rails and fender bracket. The fender brackets were attached to the cross sills and paint body color. All of this connection hardware was 5/16-24 bolts with hex. nuts (chamfered on one side) and lock washers.

The lower image in Figure242A16 is a top view of the fender (without a floor board). There was an oval hole and a stamped upset in the fender. A large fender washer fit the upset. A 5/16-18 carriage bolt ran down through the floor board and fender. The fender washer was secured with a hex. nut and lock.

Prototype
AA157 HD Express

This body type was never released for production. A number of design differences can be seen.

- Solid interior side wall
- Rear fender edge bolts and different bracket
- Rear reinforcements with only two bolts
- Different body tail gate hinges

Body Assembly Sequence

The following lists the assembly sequence required for the 242-A heavy duty express.

- Sides assembled - includes four braces, three panels, interior board assemblies, flare assemblies, bolt reinforcement plates, front panel to side angles, and tail gate chain/eye bracket assembly
- Front panel assembled - less top finish strip
- Tail gate assembled
- Rear fender brackets assembled onto cross sill #2 and 3 - two on each cross sill
- Sills assembled - ten flat head, slotted wood screws per sill; side sill to frame brackets (AA-88048) installed at front-side of sills (2 bolts per bracket)
- Side assemblies installed onto cross sills - Four sleeved bolts at each brace #1, 2, and 3. Two sleeved bolts at each brace #4.
- Guard rails installed - One bolt and two rivets at the ends of each cross sill
- Front panel assembly installed - top finish strip installed with outer ends bent around flare and secured at the top flare to brace bolt.
- Floor boards (8) placed on top of cross sills - front ends of boards butt against front panel boards; side boards butt against side boards
- Skid strips (7) placed on top of floor boards (spanning board gaps)
- All bolts installed through skid strips except cross sill #4 (9 per skid strip)
- #4 cross sill large filler board placed at rear of cross sill
- Rear floor cover panel installed - Two sleeved bolts at each end of cross sill (panel covers large filler board, floor board ends, and skid strip ends).
- Bolts installed through panel cover, skid strip tabs, and #4 cross sill (7 bolts)
- Floor side board to cross sill bolts installed (4 per side)
- #4 cross sill small filler board installed inside of cross sill
- Reinforcements (AA-242070) installed onto rear floor cover panel (4 bolts per reinforcement through large filler board, cross sill #4, and small filler board)
- Tail gate lower hinges installed - Two bolts per hinge
- Cross sill to sill brackets (AA-242064) installed inside of cross sill #1, 2, and 3 (two bolts per bracket w/filler block inside of bracket)
- Sill assemblies installed (sills placed inside of reinforcements at rear (3 bolts per reinforcement and 3 bolts per brackets at #1, 2, and 3 cross sills
- Tail gate assembly installed using tail gate rod and cotter

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