

CHAPTER 2

✓ CHROMEMOLY CAGE ASSEMBLY

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✓ CHAPTER 2

CHROMEMOLY CAGE ASSEMBLY

Section 1

Fork Assembly

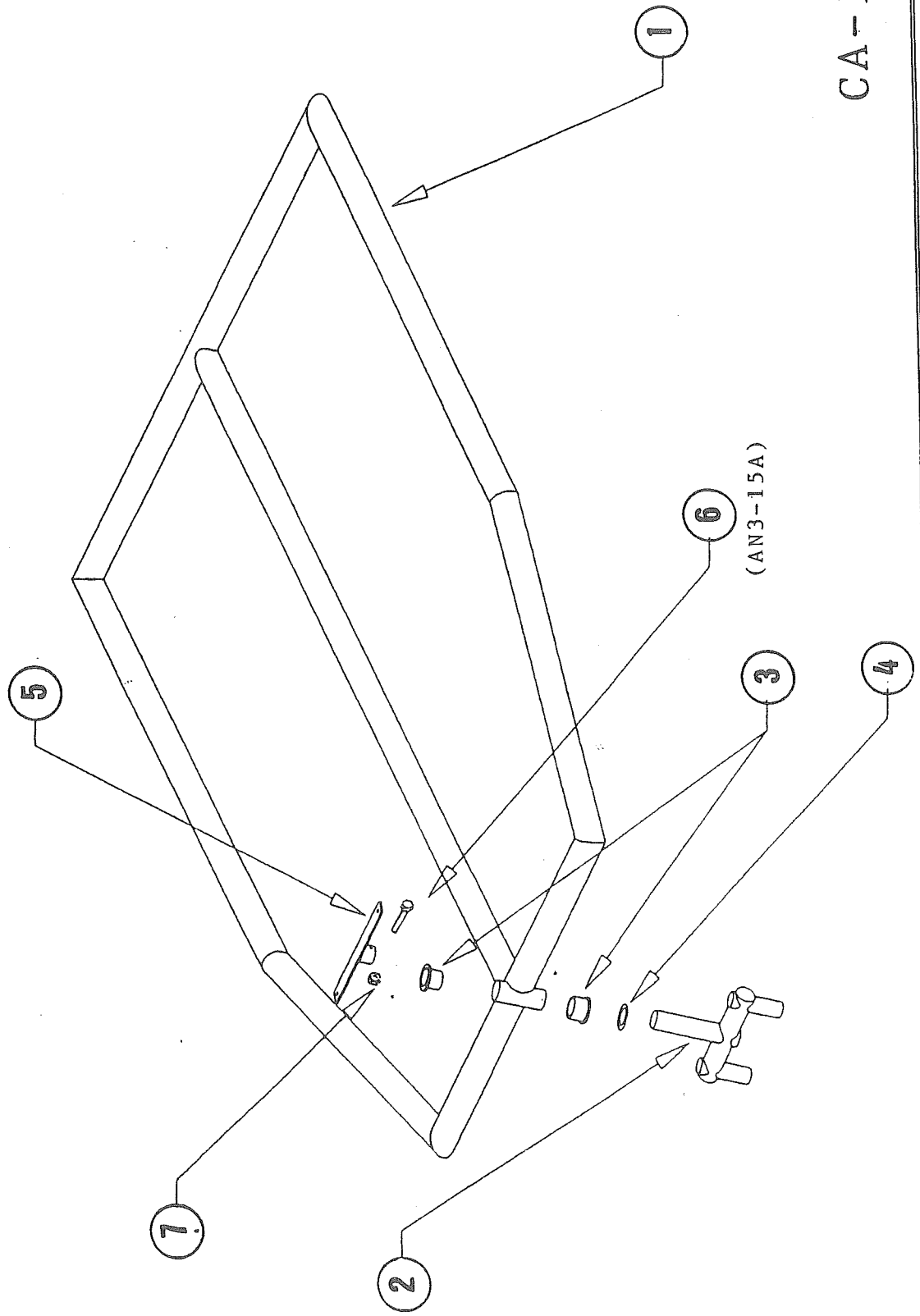
Figure CA-1

1. Figure CA-1 ASSEMBLING THE FORK TO THE CAGE
 - a) Position the cage assembly (1) as shown, on a clean, flat surface. The front of the cage has the welded tube in it for the nose wheel fork assembly. The pre-installed rivnuts (they look like a threaded pop-rivet) are on the bottom. Note that the bottom rivnuts are only on the left side and middle rail of the welded cage assembly. They are for the attachment of the throttle pillow blocks.
 - b) Insert top and bottom fork bushings (3) by lightly tapping them into the welded fork mount tube at the front of the cage. Make certain that the bushings fit flush into welded mount tube. If necessary, file down part of the bushing to help it fit properly. Avoid hammering the bushings into place as this can cause them to oval.
 - c) Slide thrust washer (4) over the vertical pivot tube of the welded fork assembly (2). Make certain that the thrust washer fits flush at the bottom of the pivot tube and the cross tube of the fork assembly. If required file a notch in each side. Check the fit of the fork rods (See Chapter 3, part # 4) into the fork, clean out any weld that has penetrated the ID with a file or Dremel tool.
 - d) Insert the pivot tube of the fork assembly (with the thrust washer) into the previously installed fork bushings on the fork mount tube. Make certain that the fork will pivot fairly easily. It is alright for the fork bushing to fit snugly, but if it is too tight, it will add friction to the entire rudder control system. In this case, lightly file the inside of the bushing to free up the fork.
2. Figure CA-1 ATTACHING STEERING PLATE TO FORK ASSEMBLY
 - a) Attach the steering plate (5) to the fork assembly by placing the steering plate on top of the fork pivot tube. Lightly tap the whole assembly together to make certain that the steering plate is fully seated on the bushings.
 - b) [If possible, use a clamp to hold the assembly together during drilling] Using a 3/16" drill, drill out the hole for the fork steering plate attachment. Make certain that the steering plate and fork are parallel and square. Drill out one side of the fork pivot tube using the pre-drilled hole in the steering head as a drill guide. Put any AN3 (3/16") bolt in the hole to secure the steering head into position for drilling the hole through the other side. Verify, again, that the alignment is correct. Insert bolt (6) through the fork head assembly and secure nut (7) tightly.

✓ Chapter 2 SECTION 1 FORK ASSEMBLY

Section 1
Fork Assembly Parts List
Figure CA-1

INDEX#	PART #	QTY	DESCRIPTION
1.	C-302	1	WELDED CAGE ASSEMBLY
2.	L-308	1	FORK ASSEMBLY
3.	L-305	2	OILITE BEARING
4.	L-334	1	FORK THRUST WASHER
5.	CS-322	1	STEERING HEAD
6.	AN3-15A	1	3/16" BOLT
7.	AN365-1032	1	3/16" LOCKNUT



CA-1

✓ **Chapter 2** SECTION 2 UPRIGHT CHANNELS, STRUT PLATE ASSY.

Section 2
Upright channels and Strut Plate Assembly
Figure CA-2, CA-3 L-R,

1. **Figure CA-2** ATTACHING FORWARD CHANNELS TO FORWARD CAGE RAIL
Attach the left side forward stainless channel (1) to the forward rail of the welded cage assembly by inserting bolt (3) through stainless channel (1), plastic saddle (2) and the left side pre-drilled hole on the forward rail. Place a second washer (4) and locknut (5) onto bolt, leaving nut loose for later attachment of the rudder pedal carry through cable assembly. Repeat for the right side forward stainless channel attachment.

2. **Figure CA-2** ATTACHING MIDDLE CHANNEL TO CENTER AFT CAGE RAIL
Attach the middle-center stainless channel (1) to the center aft cage rail by placing washer (4), and stainless channel (1) on bolt (18). Insert through the pre-drilled hole at the rear of the center rail on the welded cage assembly. Place washer (4) onto bolt (18) secure with locknut (5).

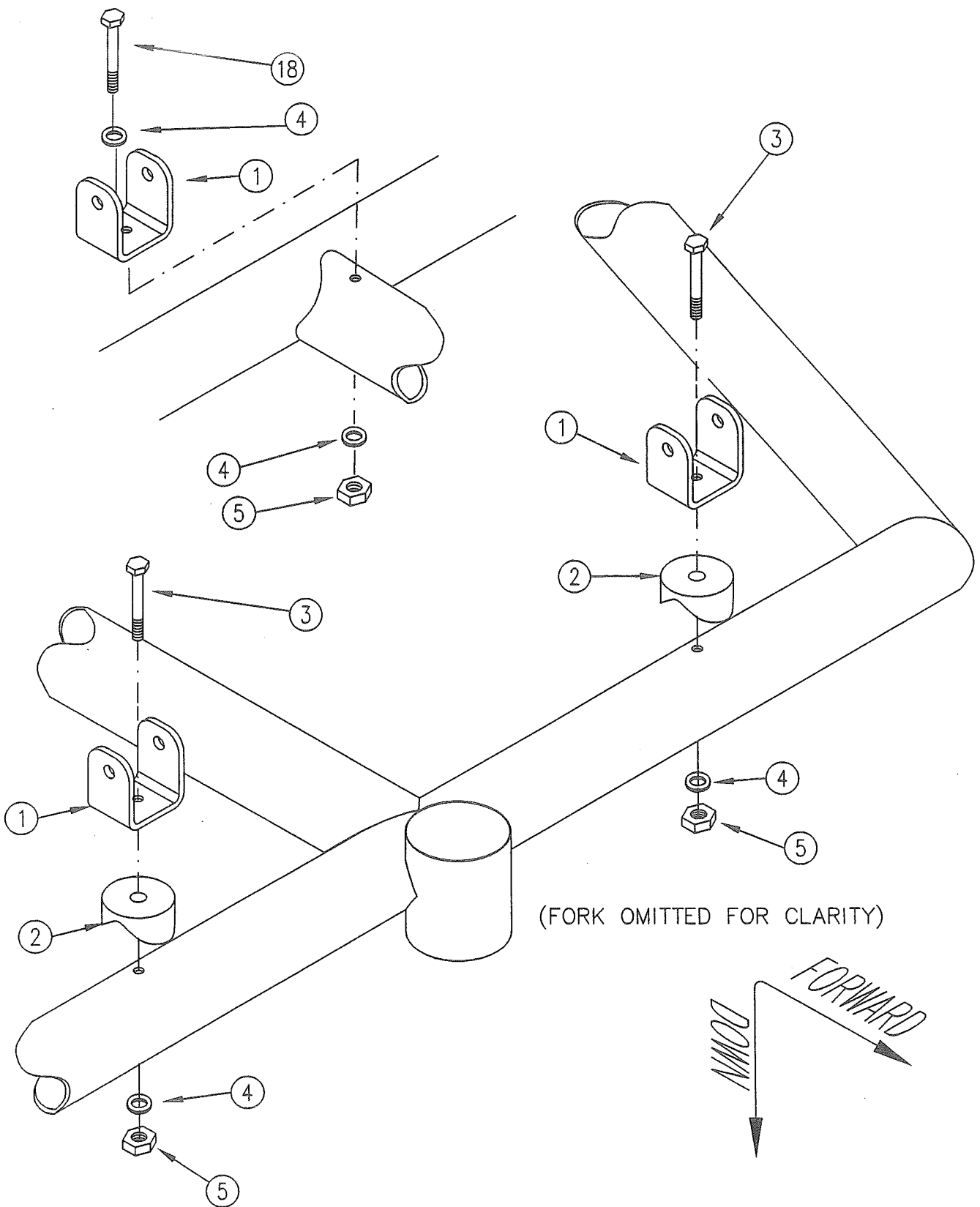
3. **Figure CA-3 L-R** ATTACHING LEFT UPRIGHT CHANNEL TO LEFT CAGE RAIL
Attach the left side upright channel bracket (6) to the left cage rail by placing washer (11) on bolt (10). At the same time prepare a second bolt / washer set with washer (4) on bolt (3). Place an upright channel bracket (6) onto the bolts, so that (bolt 10) fits through the rear hole, and (bolt 3) through the forward hole. Add a fender washer (13) to (bolt 10), and a fender washer (15) to (bolt 3). Feed through the two pre-drilled holes of the left side cage rail. Add the left strut attach plate (7) as shown. Finish (bolt 3) by adding a second washer (4), and securing with locknut (5). Finish (bolt 10) by adding gear pivot bracket (9), washer (11), and securing with locknut (12). Repeat entire procedure for right side, noting that the right side strut attach plate is part (8).

4. **Figure CA-3 L-R** ATTACHING LEFT STRUT ATTACH PLATE TO REAR CAGE RAIL
To complete the assembly of the left strut attach plate to the rear cage rail, insert bolt (14) through washer (4), and through the pre-drilled hole on the left side of the rear cage rail and into the hole on the previously attached left strut attach plate. Complete by adding second washer (4) and secure with locknut (5). Repeat this procedure for right side.

✓ Chapter 2 SECTION 2 UPRIGHT CHANNEL, STRUT PLATE ASSEMBLY

Section 2
Channel Strut Plate Assembly Parts List
Figure CA-2, CA-3 L-R

INDEX#	PART #	QTY	DESCRIPTION
1.	SU-118	3	STAINLESS CHANNEL 1-1/8"
2.	S01-44	2	PLASTIC SADDLE 1-3/4"
3.	AN4-24A	48	1/4" BOLT
4.	AN960-416	121	1/4" WASHER
5.	AN365-428	7	1/4" LOCKNUT
6.	C-43	2	UPRIGHT CHANNEL BRACKET
7.	C-316	1	STRUT ATTACH PLATE (LEFT)
8.	C-316-1	1	STRUT ATTACH PLATE (RIGHT)
9.	L-340	2	GEAR PIVOT BRACKET
10.	AN5-25A	2	5/16" BOLT
11.	AN960-516	4	5/16" WASHER
12.	AN365-524	2	5/16" LOCKNUT
13.	AN970-5	2	5/16" FENDER WASHER
14.	AN4-23A	24	1/4" BOLT
15.	AN970-4	2	1/4" FENDER WASHER
16.			
17.			
18.	AN4-22A	1	1/4" BOLT



NOTE: LEAVE LOCKNUT LOOSE FOR LATER ATTACHMENT OF THE RUDDER PEDAL PULLEY PLATE.

FIGURE CA-2
CAGE FORWARD UPRIGHTS ASSEMBLY

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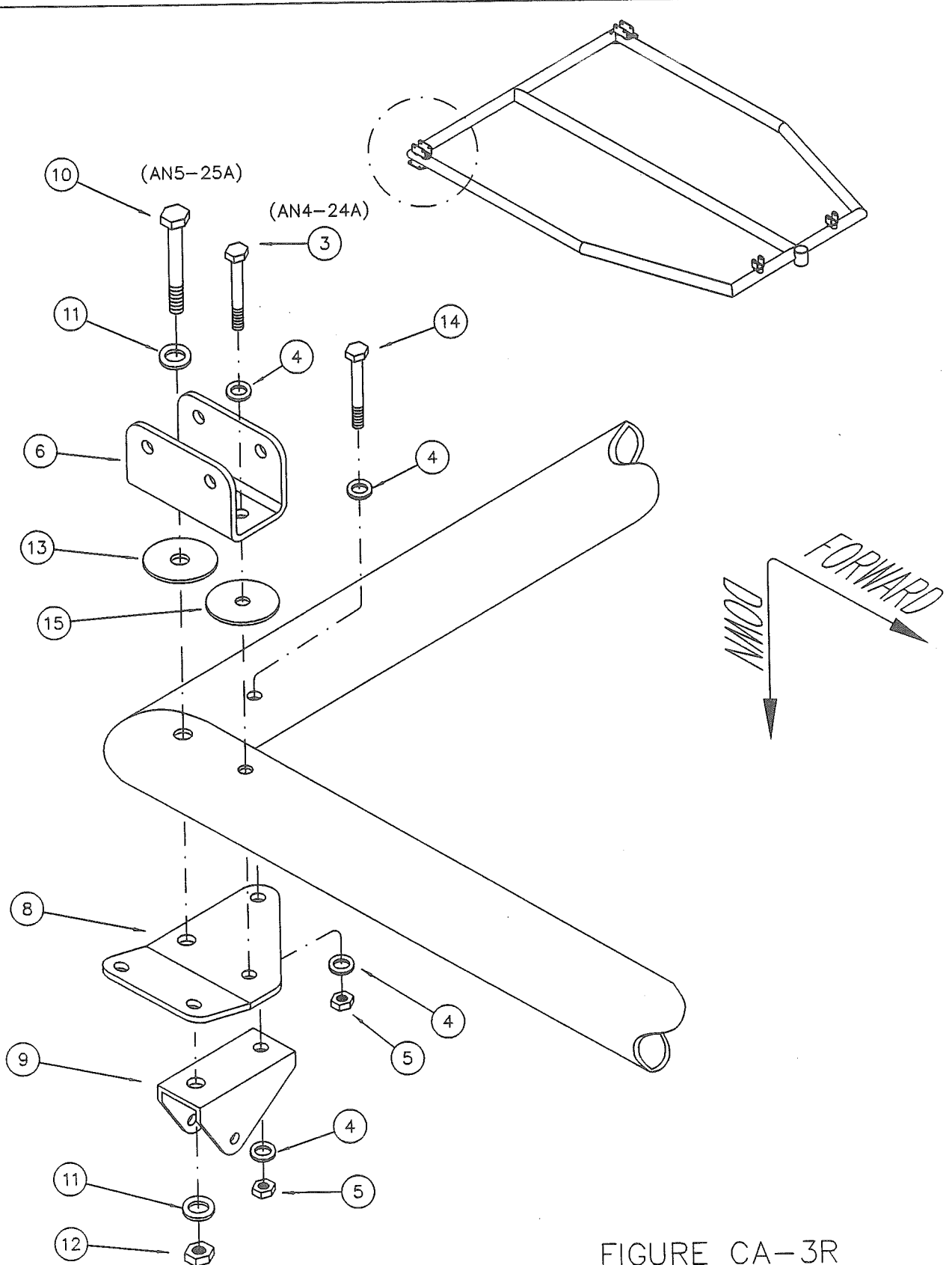


FIGURE CA-3R
 CAGE AFT UPRIGHTS ASSEMBLY

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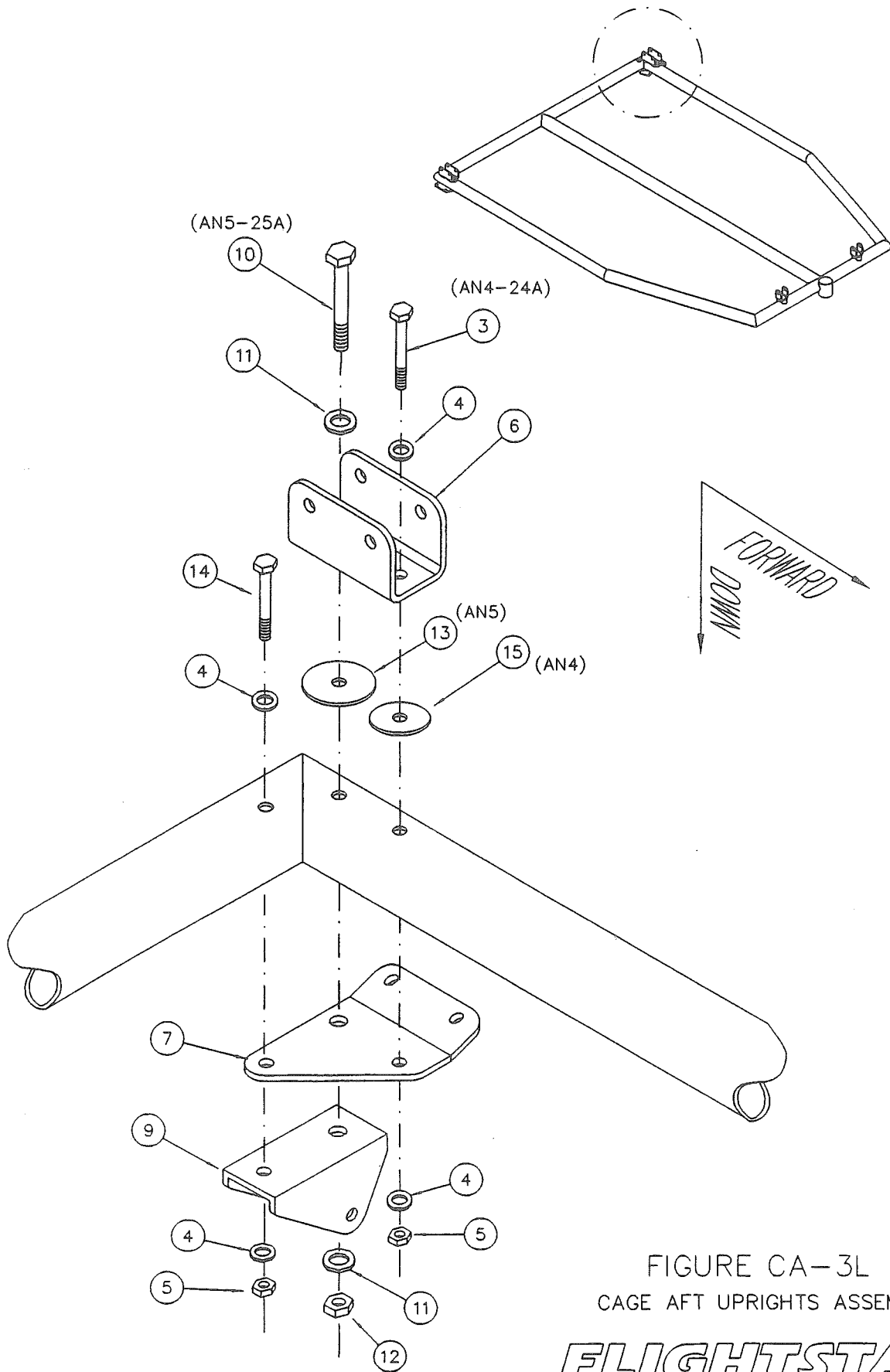


FIGURE CA-3L
CAGE AFT UPRIGHTS ASSEMBLY

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✓ Chapter 2 SECTION 3 HARNESS ASSEMBLY

Section 3
 Harness Assembly
 Figure CA-3

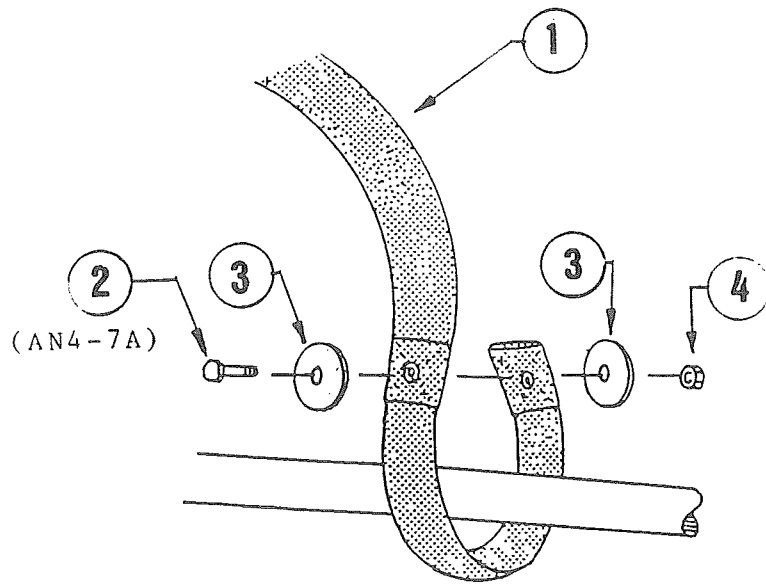
1. Figure CA-3 ATTACHING RESTRAINT HARNESS TO CAGE RAIL
 Attach the lower strap of the restraint harness (1) to the rear cage rail. Slide fender washer (3) onto bolt (2). Slide through both holes of the harness that has been looped around the rear and side cage rails as shown. Add a second fender washer (3) and secure with locknut (4). Repeat this procedure on the other side. Make certain that the harnesses are correctly aligned, with no twists.

2. For the optional 4 point harness (5), the layout of the harnesses is the same. Follow the diagram as shown in CA-3A to attach the lower straps. Note that the 3 Bar slide fitting is to placed close to the cage rail. In the 1st. Step, the webbing goes up and over the center bar of the fitting, then around the cage rail. The webbing then goes through the fitting again. In the 2nd. Step, the webbing goes over the top of the fitting and under the outer bar and back out to finally lock the webbing in place.

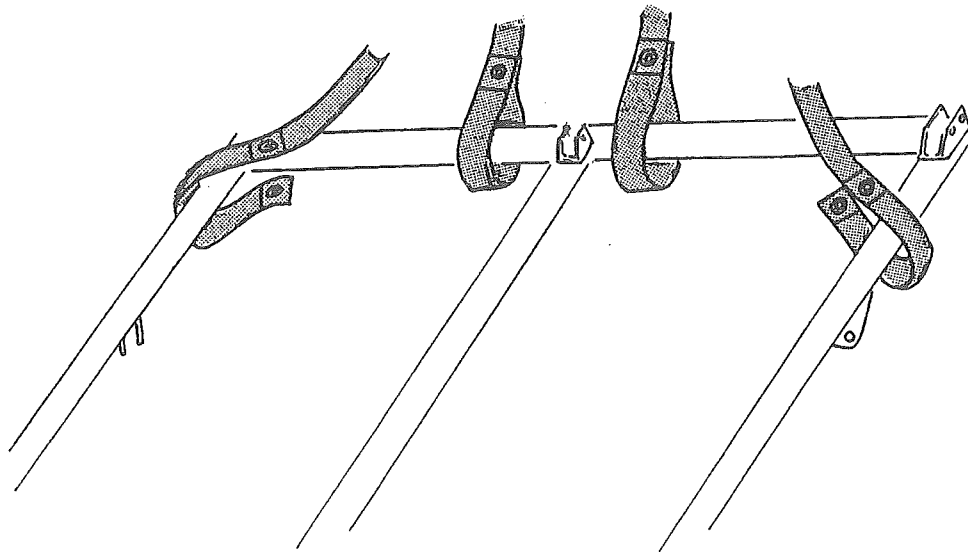
✓ Chapter 2

Section 3
 Harness Assembly Part List
 Figure CA-3

INDEX#	PART #	QTY	DESCRIPTION
1.	C-103	2	STANDARD 3 POINT HARNESS
2.	AN4-7A	4	1/4" BOLT
3.	AN970-4	8	1/4" FENDER WASHER
4.	AN365-428	4	1/4" LOCKNUT
5.	C-170	2	OPTIONAL FOUR POINT HARNESS

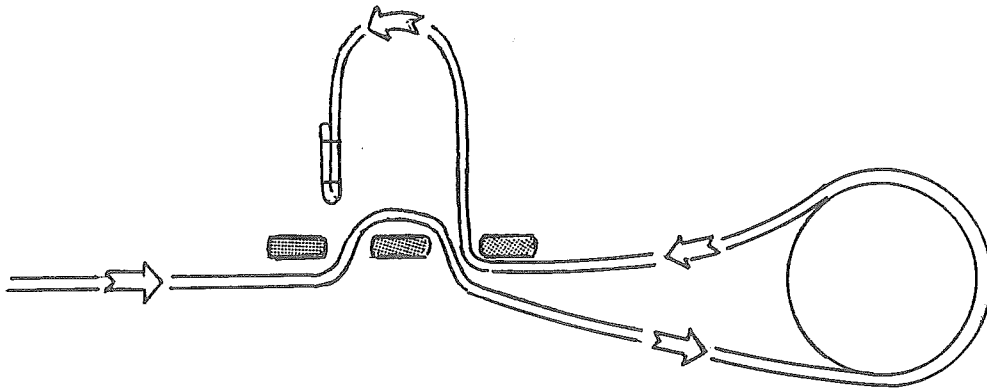
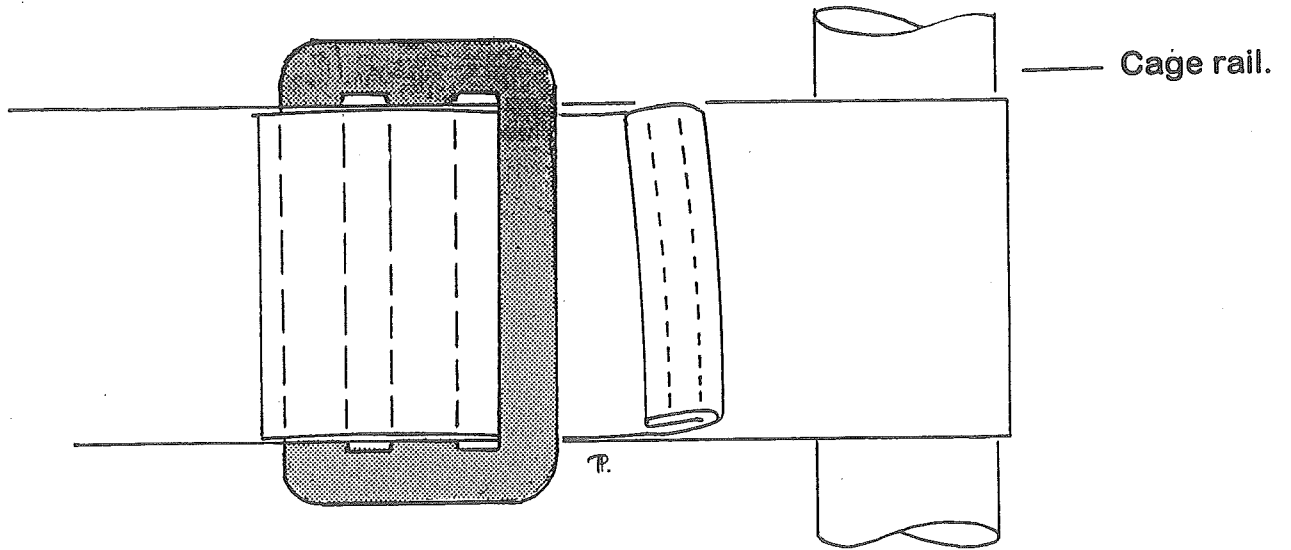


ATTACHMENT DETAIL OF THE STANDARD HARNESSSES



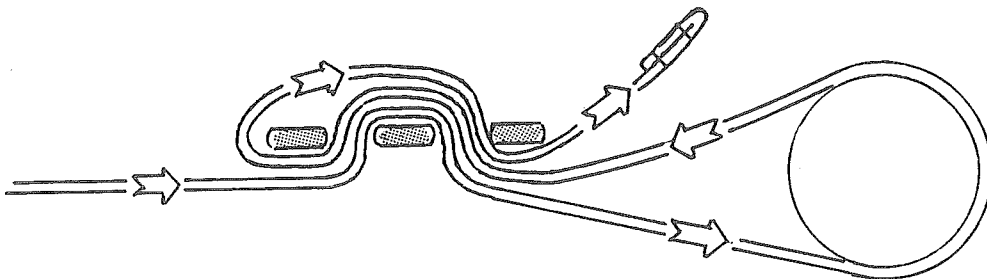
THE WEBBING STRAPS GO AROUND THE REAR RAIL IN THE CENTER AND THE SIDE RAIL ON THE OUTER ATTACHMENT

FULLY ASSEMBLED VIEW



1ST STEP

Position the 3-Bar slide fitting close to the cage rail.



2ND STEP

Tuck excess webbing through the slide fitting to lock.

✓ **Chapter 2** SECTION 4 LOWER SEAT / UPRIGHTS ASSEMBLY

Section 4

Lower Seat Support Tube / Uprights Assembly
Figure CA-4, CA-5L-R, CA-6

1. **Figure CA-6** **ATTACHING SEAT SUPPORT TUBE TO CAGE RAILS**
 - a) Attach the lower seat support tube (1) to the side and center cage rails. Refer to Figure CA-6 to determine proper placement of lower seat support tube. Look for the set of three parallel holes; one each on the left side, center, and right side cage rail. *(The only other set of three parallel holes are further forward on the narrow part of the cage rails. These are the rudder axle holes.)*
 - b) Begin with the left side rail. Place washer (3) on bolt (2). Insert through the left side rail. Add plastic saddle (4) and plastic saddle (5). Slide the left side of the lower seat support tube (1) onto the bolt. Add washer (3) and locknut (6). Finger tighten locknut for later removal in Chapter 9 to attach the seats.. Repeat this procedure for the right side and the center.
2. **Figure CA-4** **ATTACHING FORWARD UPRIGHTS TO FORWARD UPRIGHT CHANNELS**

Attach the forward uprights (7) to the forward upright channels that were previously attached in Chapter 2 / Section 2/ Figure CA-2. Place the left forward upright in left stainless channel. Slide bolt (10) through the holes, starting at the outside. Finger tighten a locknut (6) onto the bolt. It will have to be removed later during the attachment of the nose fairing. Repeat this procedure on the right side.
3. **Figure CA-5L-R** **ATTACHING CENTER & AFT UPRIGHTS TO REAR UPRIGHT CHANNELS**

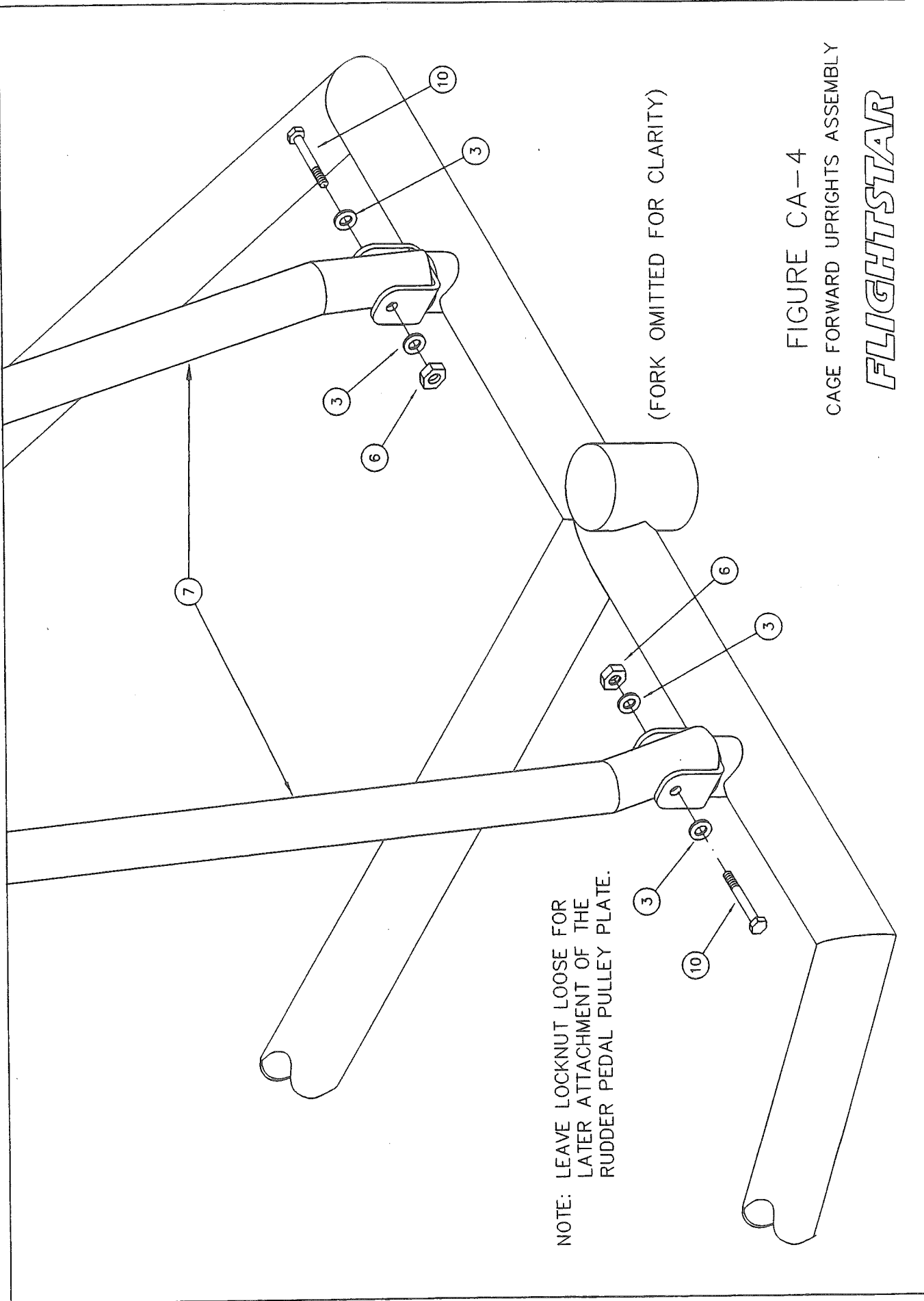
Attach the center uprights (8) to the aft upright channels that were previously attached in Chapter 2 / Section 2 / Figure CA-2. Place the left side center upright in the left stainless channel. Place washer (3) on bolt (10) and insert through channel and upright. Add a second washer (3). Secure with locknut (6). Repeat for right side center upright.

Attach the rear uprights (9) to the aft upright channels that were previously attached in Chapter 2 / Section 2 / Figure CA-2. Place the left side center upright in the left stainless channel. Place washer (3) on bolt (10) and insert through channel and upright. Add a second washer (3). Secure with locknut (6). Repeat for right side rear upright.

✓ CHAPTER 2 SECTION 4 UPRIGHTS ASSEMBLY

Section 4
Upright Assembly Parts List
Figure CA-4, CA-5L-5R, CA-6

INDEX#	PART #	QTY	DESCRIPTION
1.	C-200	1	LOWER SEAT SUPPORT TUBE
2.	AN4-36A	3	1/4" BOLT
3.	AN960-416	18	1/4" WASHER
4.	S01-44	3	PLASTIC SADDLE
5.	SO1-14	3	PLASTIC SADDLE
6.	AN365-428	9	1/4" LOCKNUT
7.	C-238	2	FORWARD UPRIGHT
8.	C-239	2	CENTER UPRIGHT
9.	C-240	2	AFT UPRIGHT
10.	AN4-16A	6	1/4" BOLT



NOTE: LEAVE LOCKNUT LOOSE FOR LATER ATTACHMENT OF THE RUDDER PEDAL PULLEY PLATE.

(FORK OMITTED FOR CLARITY)

FIGURE CA-4
CAGE FORWARD UPRIGHTS ASSEMBLY

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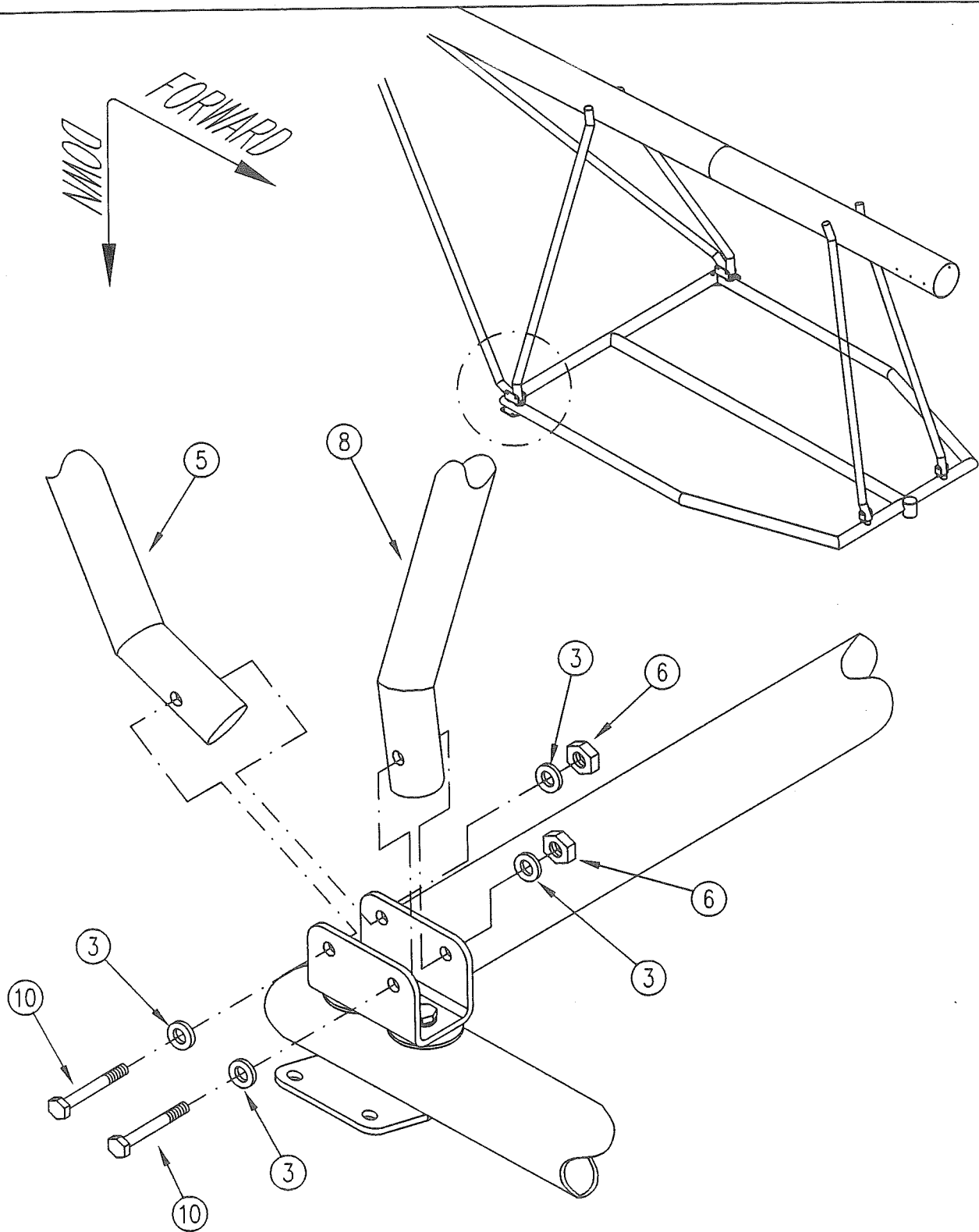


FIGURE CA-5R
CAGE AFT UPRIGHTS ASSEMBLY

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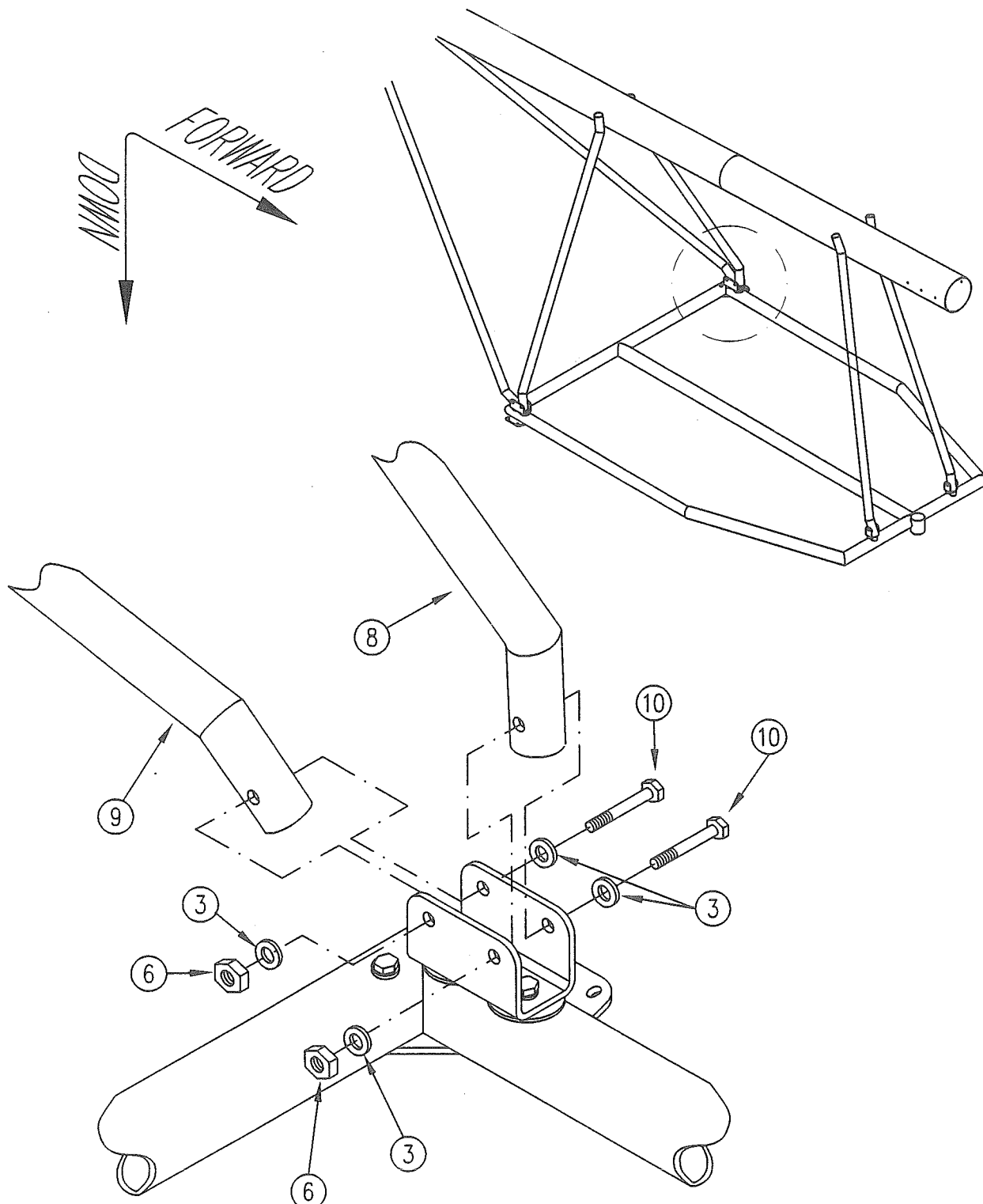


FIGURE CA-5L
 CAGE AFT UPRIGHTS ASSEMBLY

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FIGURE CA-6
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