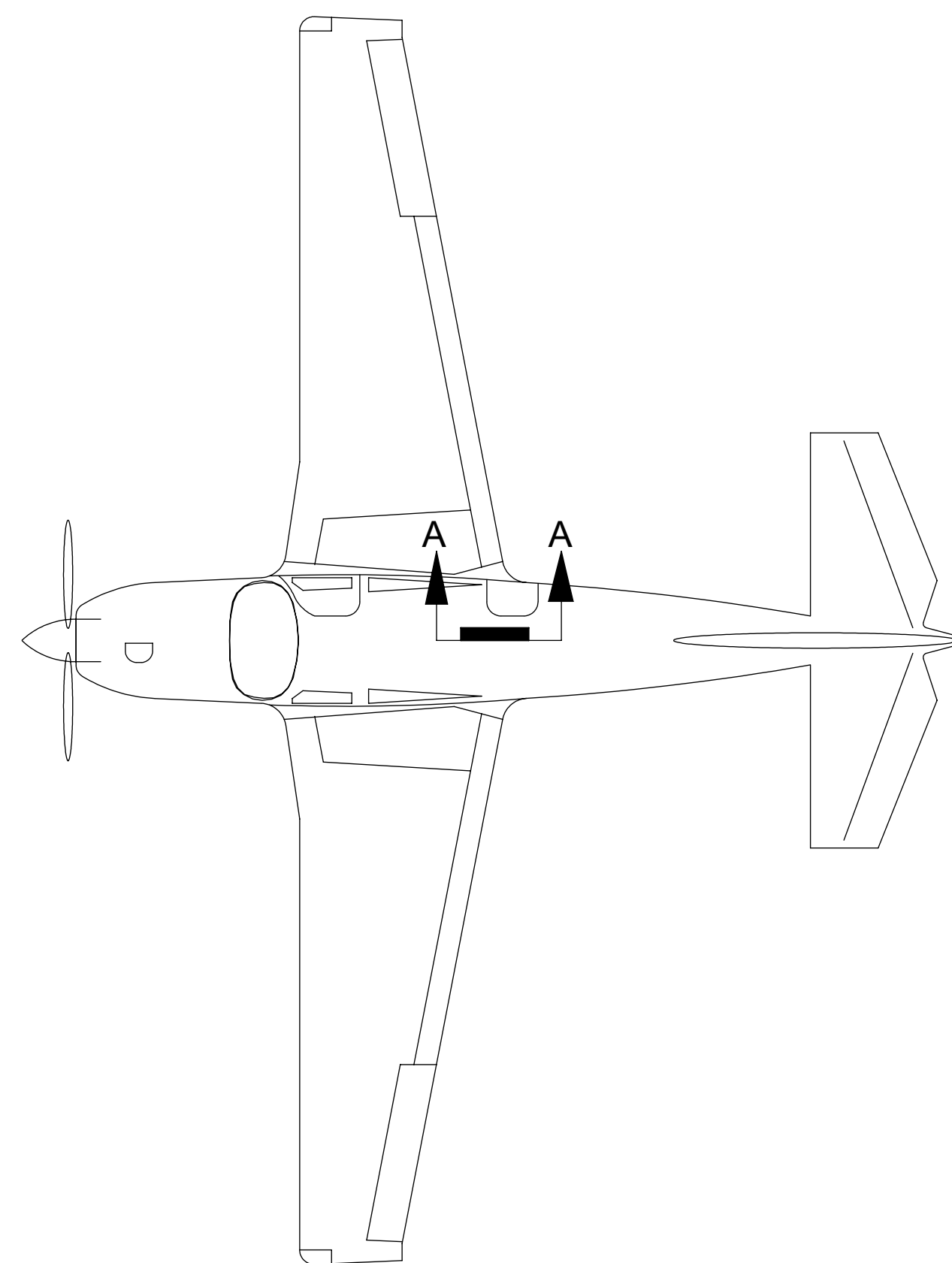


NOTES:

1. REMOVE SHARP EDGES OR BURRS.
2. TOUCH UP BARE ALUMINUM PER MIL-DTL-5541 TYPE 1, CLASS 3 OR EQUIVALENT USING ALODINE
3. INSTALL NUTPLATES APPROXIMATELY AS SHOWN.
4. FASTENER LENGTHS MAY VARY UP OR DOWN ONE GRIP LENGTH IF REQUIRED TO MEET FASTENER INSTALLATION REQUIREMENTS. INSTALL RIVETS PER MIL-R-47196A.
5. INSTALL USING BLUE THREADLOCKER (LOCTITE 242 OR EQUIVALENT).
6. TORQUE 8-32 FASTENERS TO 15-20 IN-LBS. TORQUE 10-32 FASTENERS TO 20-25 IN-LBS. TORQUE 1/4-28 FASTENERS TO 50-70 IN-LBS. APPLY TORQUE SEAL.
7. LOCATE APPROXIMATELY AS SHOWN.
8. ADJUST BRACKET ANGLE TO MATCH EXISTING STRUCTURE AS REQUIRED .
9. SEE VIEW A-A FOR AIRCRAFT WITH 29" BAGGAGE BAY. SEE VIEW G-G FOR AIRCRAFT WITH 17" BAGGAGE BAY. SEE VIEW H-H FOR AIRCRAFT WITH 12" BAGGAGE BAY. TRIM PITCH SERVO C-CHANNEL TO LENGTH SHOWN, BASED ON CONFIGURATION. UNIDENTIFIED PARTS ARE SAME AS SHOWN ON VIEW A-A. NOT ALL PARTS REQUIRED FOR ALL CONFIGURATIONS.
10. MAINTAIN A MINIMUM OF .2" CLEARANCE BETWEEN ALL PUSHRODS AND FLIGHT CONTROL COMPONENTS THROUGHOUT THE FULL RANGE OF TRAVEL.
11. ENSURE ELECTRICAL BONDING AND GROUNDING OF LESS THAN 2.5 MILLIOHMS BETWEEN PMA SERVO AND AIRCRAFT STRUCTURE PER SAE ARP1870.
12. UNLESS OTHERWISE SPECIFIED, MAINTAIN FASTENER PITCH OF 4D-8D AND EDGE DISTANCE OF 2D, OR MATCH EXISTING FASTENER LOCATIONS.
13. ENSURE ROD END HAS MINIMUM 12 THREADS OF ENGAGEMENT INTO PUSHROD. INSTALL USING LOCTITE 271 OR EQUIVALENT.
14. TRIM FLANGES TO PROVIDE MINIMUM .10 CLEARANCE TO EXISTING STRUCTURE. MAX .40 TRIM ALLOWED.
15. VERIFY SERVO ARM DOES NOT CONTACT THE STOPS BEFORE FULL ELEVATOR DEFLECTION, BOTH DIRECTIONS.
16. VERIFY SERVO ARM POSITION IS VERTICAL (DOWN) +/- 5 DEGREES WHEN THE ELEVATOR IS IN NEUTRAL POSITION.
17. ASSEMBLE WITH LOCTITE 271 OR EQUIVALENT AND TORQUE TO 50-55 IN-LB.

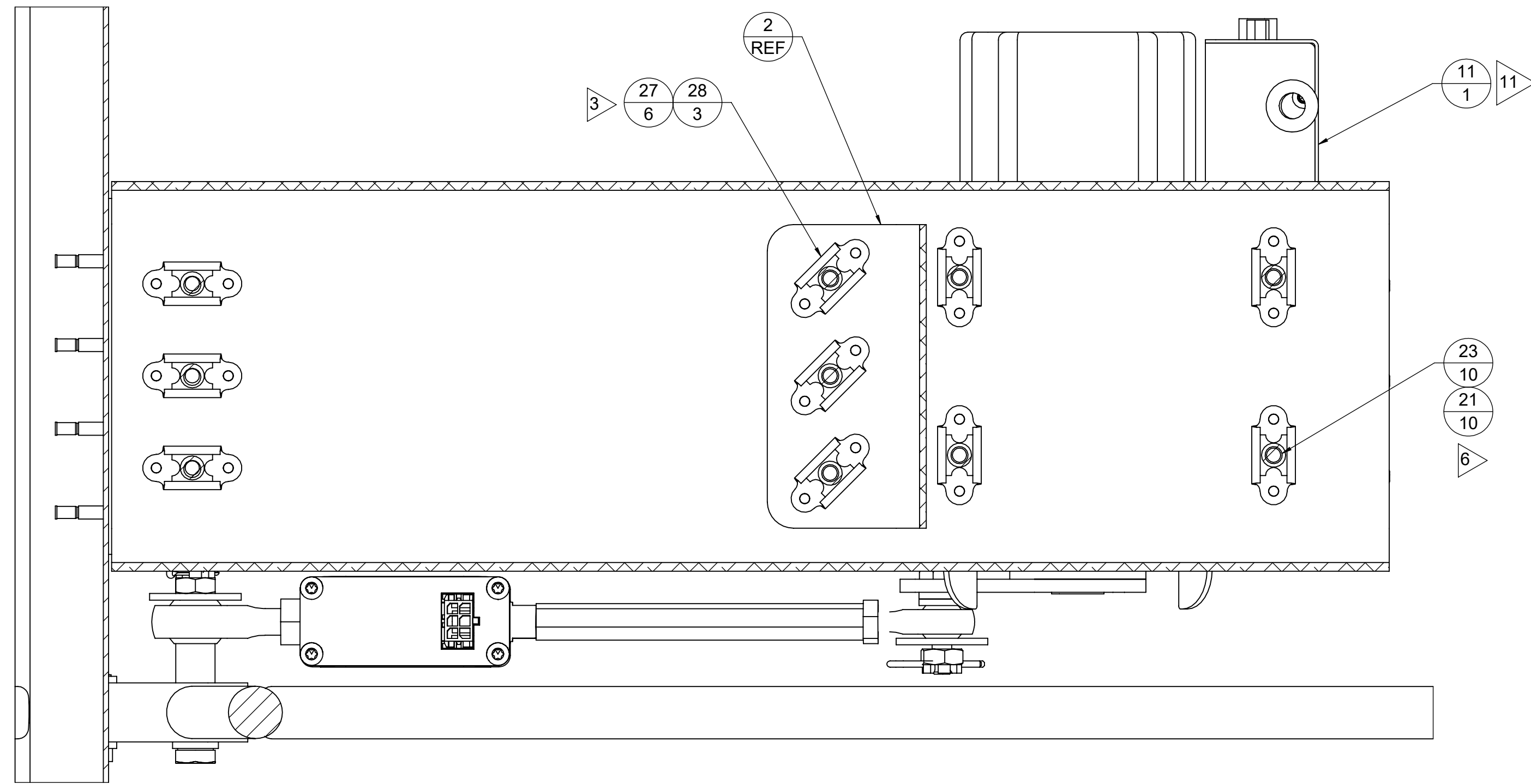


-503 AUTOPILOT PITCH SERVO INSTALL, MOONEY M20

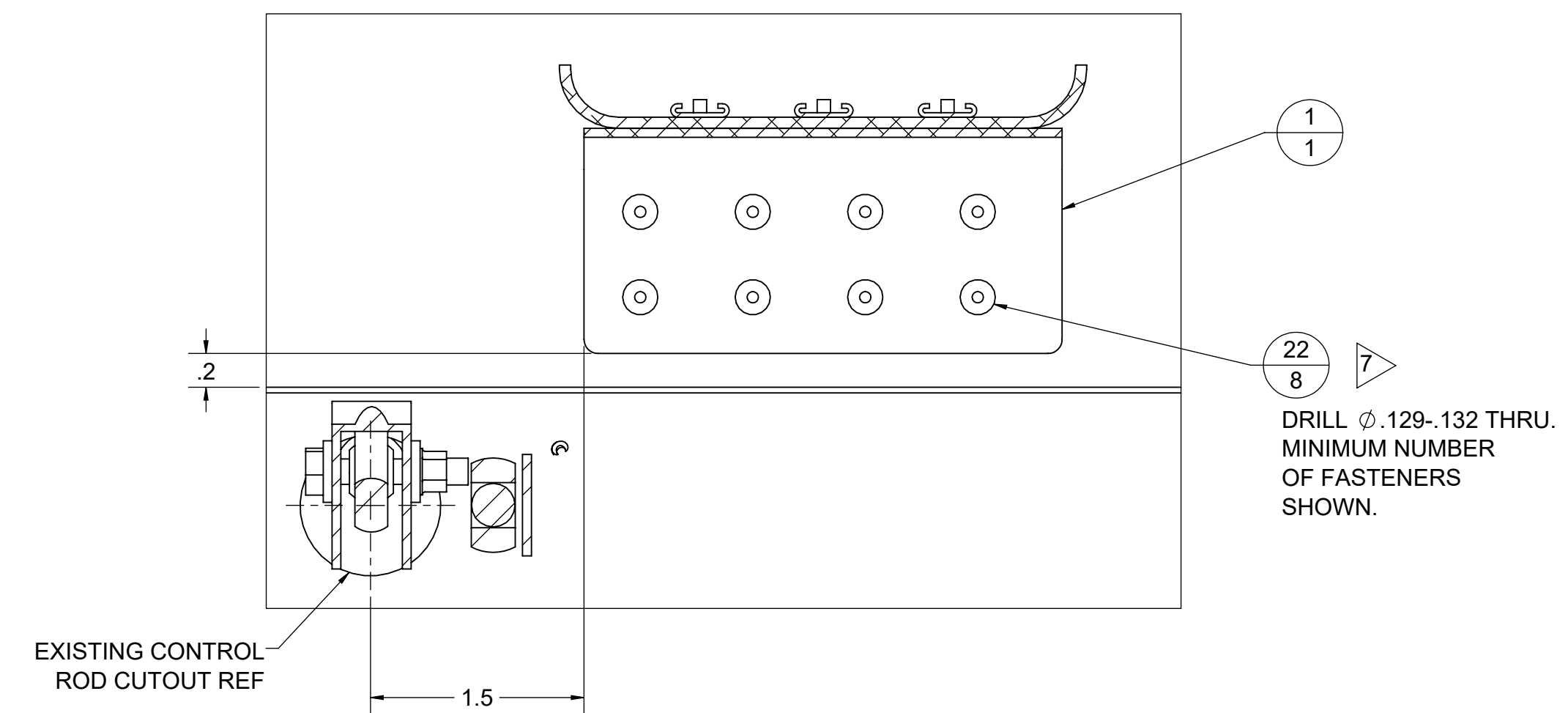
REV.				
A	REVISED BOM & INSTALLATION INSTRUCTIONS.	M BAIG 06/08/21	D SAM 06/08/21	D RANKIN 06/08/21
B	ADDED BOM ITEM 31	M BAIG 07/1/21	D SAM 07/1/21	D RANKIN 07/1/21
C	UPDATED P/N FOR BOM ITEM 10	M BAIG 07/2/21	D SAM 07/2/21	D RANKIN 07/2/21
D	UPDATED BOM AND DETAIL ON SH.3	M BAIG 07/26/21	D SAM 07/26/21	D RANKIN 07/26/21
E	REVISED DRAWING LAYOUT. ADDED ALTERNATE INSTALLATION CONFIGURATIONS.	T BAILEY 8/16/2021	D SAM 8/16/21	T BAILEY 8/16/21
F	REVISED DRAWING TEMPLATE, DRAWING VIEWS AND ARRANGEMENT FOR CLARITY. REPLACED -301/-313/-315/-323 COMPONENTS WITH -335 MOUNT BRACKET ASSEMBLY. UPDATED PART NUMBER OF SERVO ARM. ADDED EXPLODED VIEWS. ADDED 12V SERVO TO BOM. CHANGED NAS1802 BOLTS TO NAS1801. REVISED NOTES 4, 14 AND 17. CHANGED MS35338-43 TO MS35333-39. CHANGED 140-001-5 TO AN970-3. ADDED 2510-059. CHANGED NAS1149D0363J TO AN960-10.	A. PRESTEL 2/2/2022	T. BAILEY 2/5/22	T. BAILEY 2/5/22

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION	Vendor
29	3	MS24694-S3	SCREW	
28	10	MS21059L08	NUTPLATE, FLOATING, # 8-32	-
27	20	MS20426AD3	RIVET, CTSK, 3/32	-
26	1	CM-3B-14	ROD END BEARING	-
25	1	MM-3-300	ROD END BEARING, 10-32	-
24	1	AN315-3	NUT, JAM	-
23	14	NAS1801-08-08	SCREW, HEX, 8-32 X .50"	-
22	16	CR3213-4-04	BLIND RIVET, 1/4" GRIP	-
21	14	NAS1149FN832P	WASHER	-
20	3	AN960-10	WASHER, FLAT, #10 X .063 THK	-
19	4	MS35333-39	LOCK WASHER	-
18	2	MS24665-134	COTTER PIN, .063" DIA X .75"	-
17	2	MS17826-3	CASTELLATED NUT, THIN, 10-32	-
16	2	AN970-3	WASHER, LARGE O.D., # 10	-
15	1	AN315-4	NUT, JAM	-
14	1	AN3-16	BOLT, 10-32 X 1-25/32, DRILLED SHANK	-
13	1	AN3-7	BOLT, HEX, HOLE IN SHANK, 10-32 X .906"	-
12	4	AN3-3A	BOLT, HEX, 10-32 X .469"	-
11	1	8100-065 8100-064	PMA SERVO, 24V, 60 IN-LBS PMA SERVO, 12V, 60 IN-LBS	BENDIXKING
10	1	8000-177	PMA LINK SENSOR	BENDIXKING
9	1	2520-051	3.125" PUSHROD	BENDIXKING
8	1	2510-059	SPACER	BENDIXKING
7	1	2500-218	SOCKET SET SCREW	BENDIXKING
6	3	2500-216	FLAT HEAD SOCKET CAP SCREW, 8-32 X .375"	BENDIXKING
5	1	1420-209	SERVO ARM	BENDIXKING
4	1	PA-201130-339	PITCH SERVO C-CHANNEL ASSEMBLY	BENDIXKING
3	1	PA-201130-335	PITCH SERVO MOUNTING BRACKET ASSEMBLY	BENDIXKING
2	1	PA-201130-311	C-CHANNEL BRACKET CLAMP	BENDIXKING
1	2	PA-201130-305	PITCH SERVO C-CHANNEL BRACKET	BENDIXKING

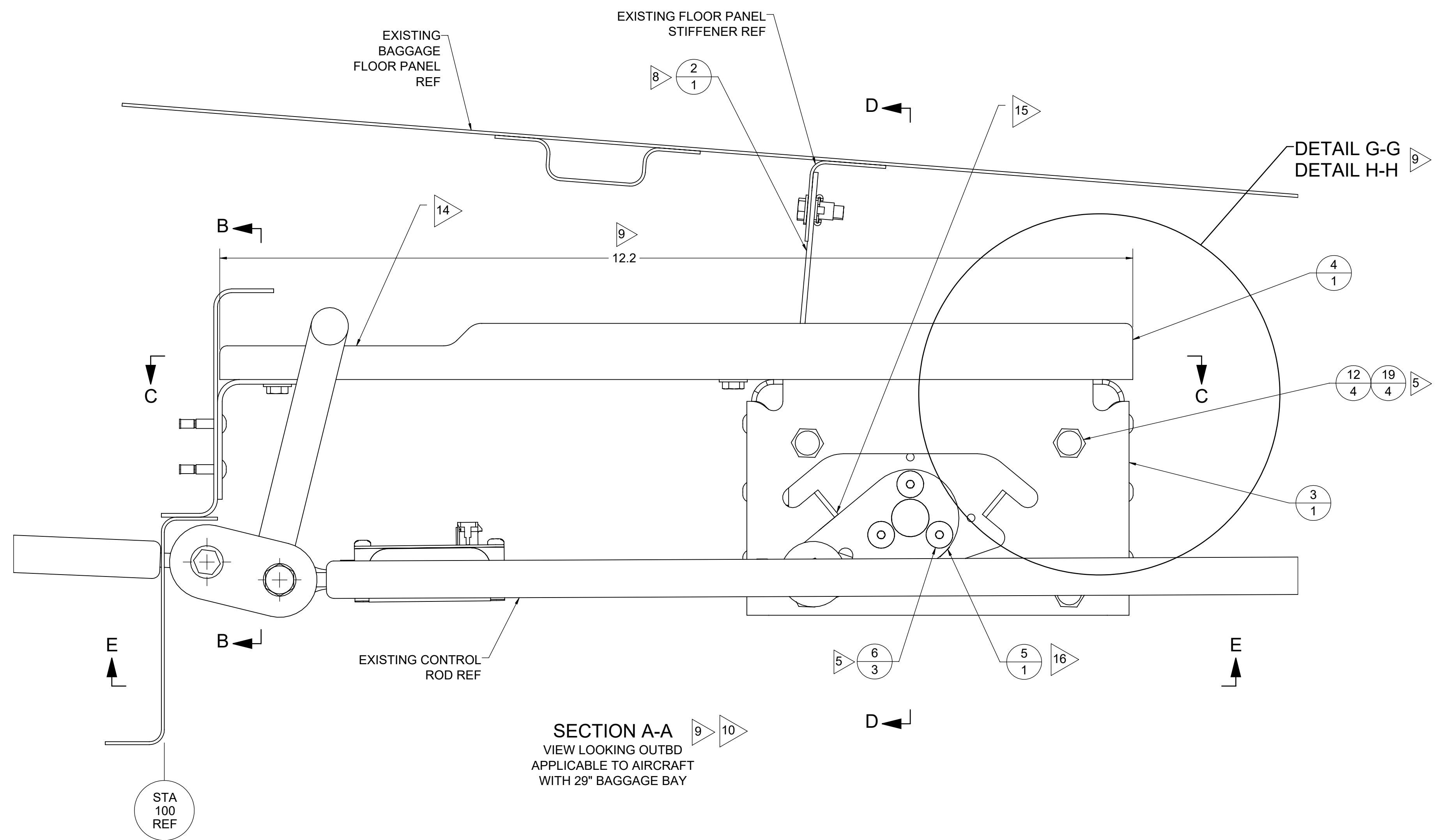
<small>DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED THIRD ANGLE PROJECTION</small> <small>TOLERANCES UNLESS OTHERWISE SPECIFIED: X = ± .100 X = ± .050 XX = ± .030 XXX = ± .010 X' = ± .2 X' = ± .1"</small>	<small>DRAWN</small> CGP 5/7/21 <small>CHECKED</small> D SAM 5/7/21 <small>RELEASED</small> D RANKIN 5/7/21	 PEREGRINE <small>7385 SOUTH PEORIA STREET UNIT C4 ENGLEWOOD, CO 80112</small>	
	TITLE: AUTOPILOT PITCH SERVO INSTALL, MOONEY M20		
	<small>FINISH</small> SEE NOTES <small>WEIGHT</small> <small>NEXT ASSEMBLY</small>		<small>PROPRIETARY DATA NOTICE</small> <small>THE INFORMATION CONTAINED IN THIS DRAWING IS PROPRIETARY TO PEREGRINE AVIONICS LLC. ANY USE, DISCLOSURE OR REPRODUCTION OF THIS DATA IN WHOLE OR IN PART WITHOUT THE WRITTEN PERMISSION OF PEREGRINE IS PROHIBITED.</small>



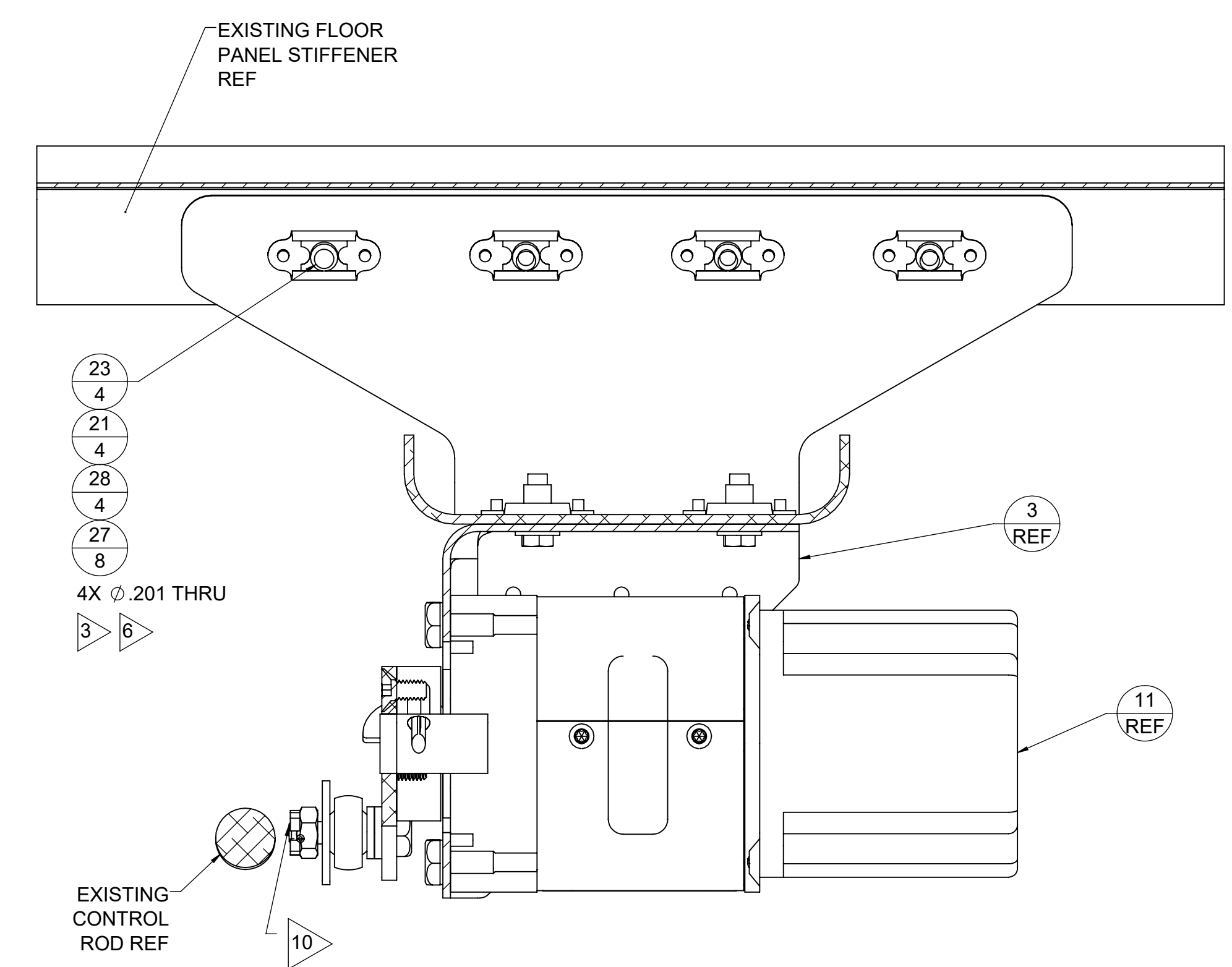
SECTION C-C
VIEW LOOKING DOWN



SECTION B-B
VIEW LOOKING FWD



SECTION A-A
VIEW LOOKING OUTBD
APPLICABLE TO AIRCRAFT
WITH 29" BAGGAGE BAY



SECTION D-D
SOME BACKGROUND ITEMS OMITTED
VIEW LOOKING FWD

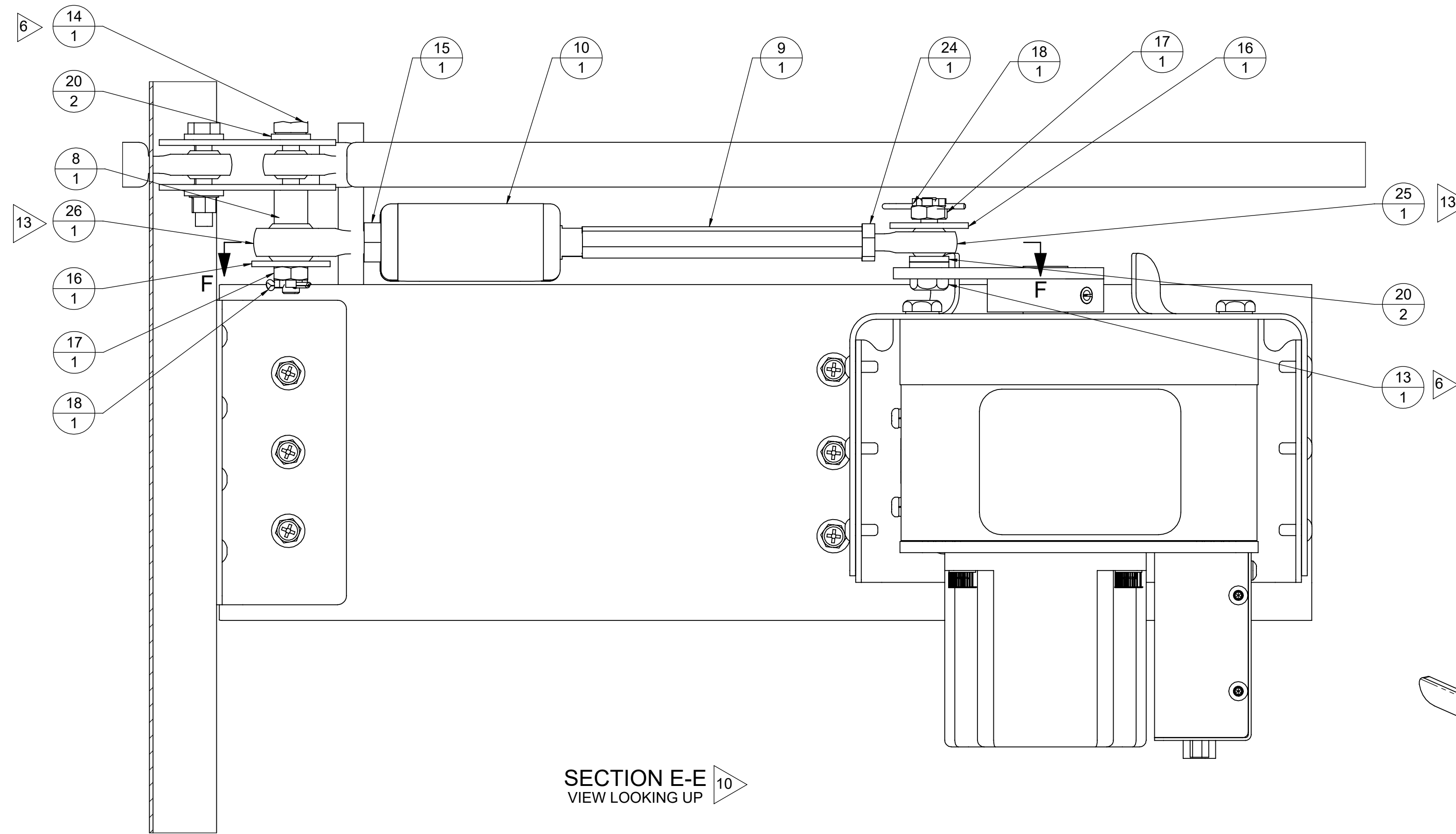
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SIZE D	DWG. NO. PA-201130-503	REV F
SCALE: N/A	DO NOT SCALE DRAWING	SHEET 2 OF 5

4

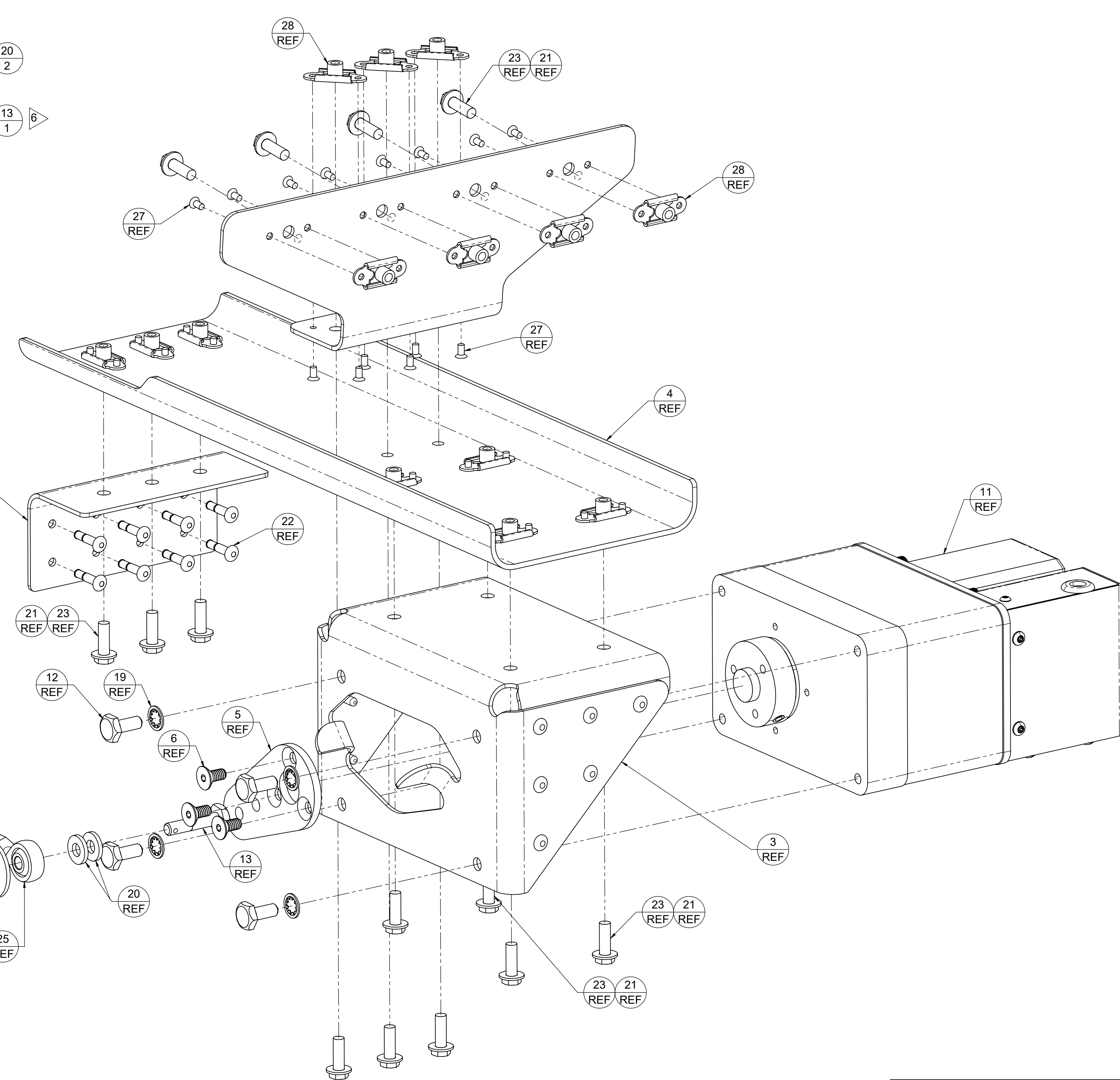
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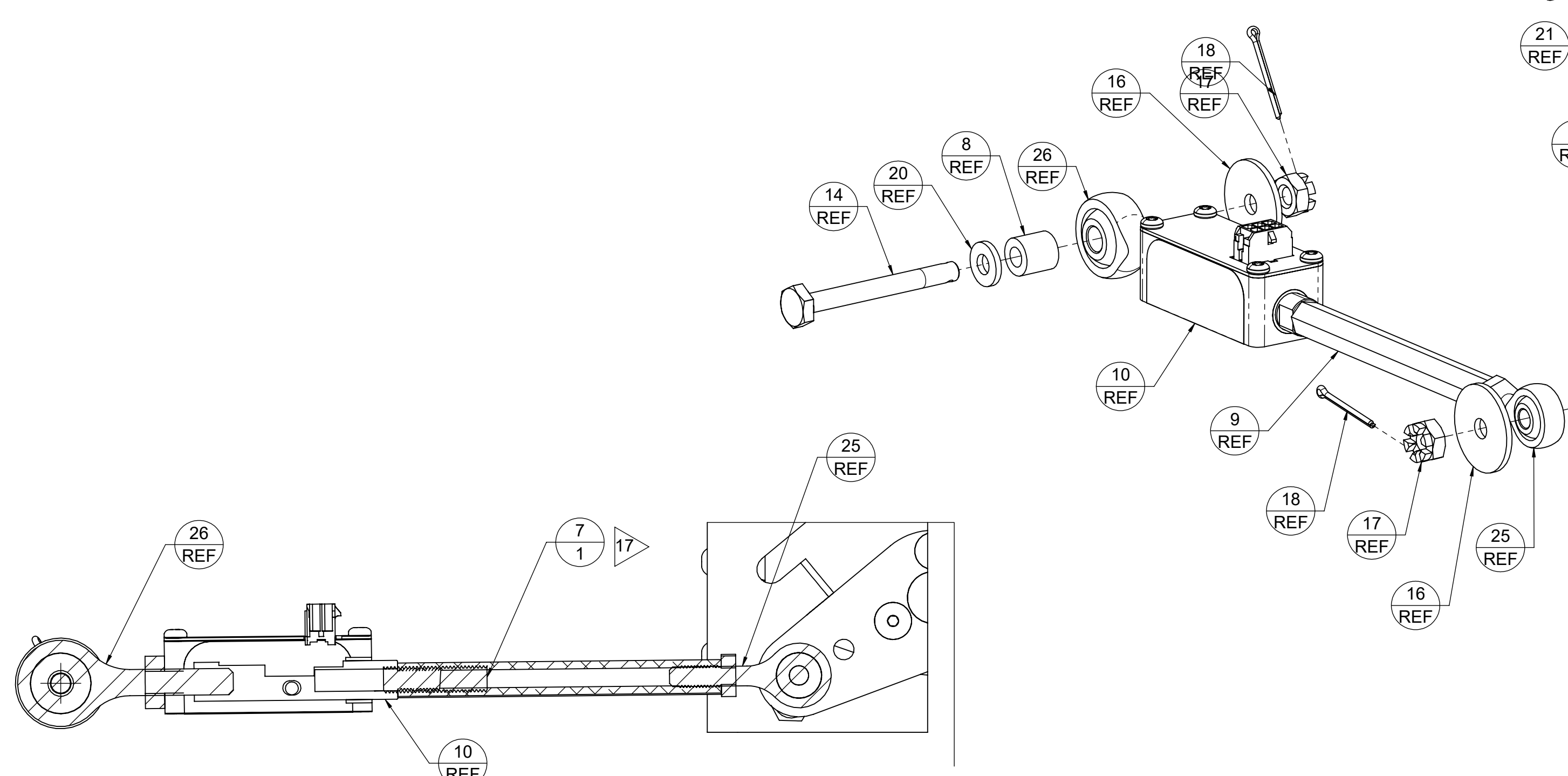
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SECTION E-E
VIEW LOOKING UP



REF EXPLODED VIEW FOR AIRCRAFT WITH 29" BAGGAGE BAY



SECTION F-F
VIEW LOOKING OUTBD

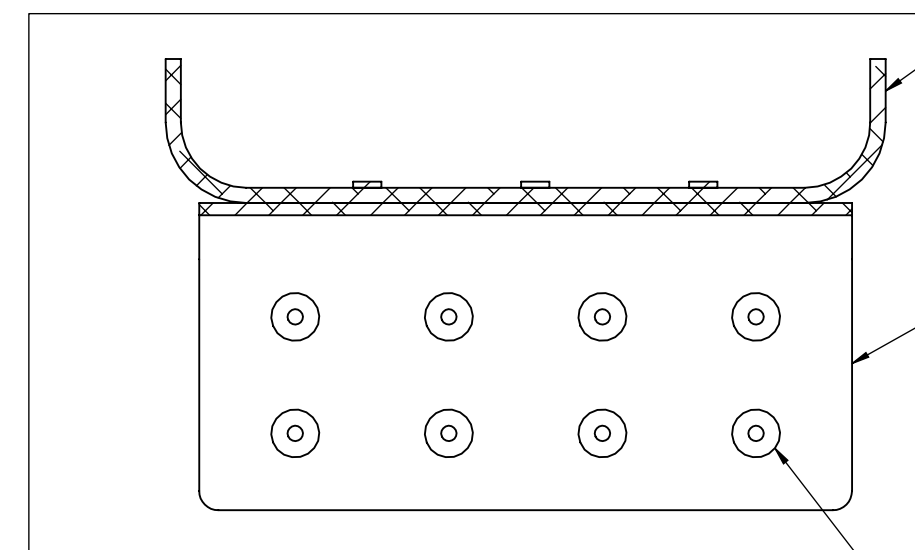
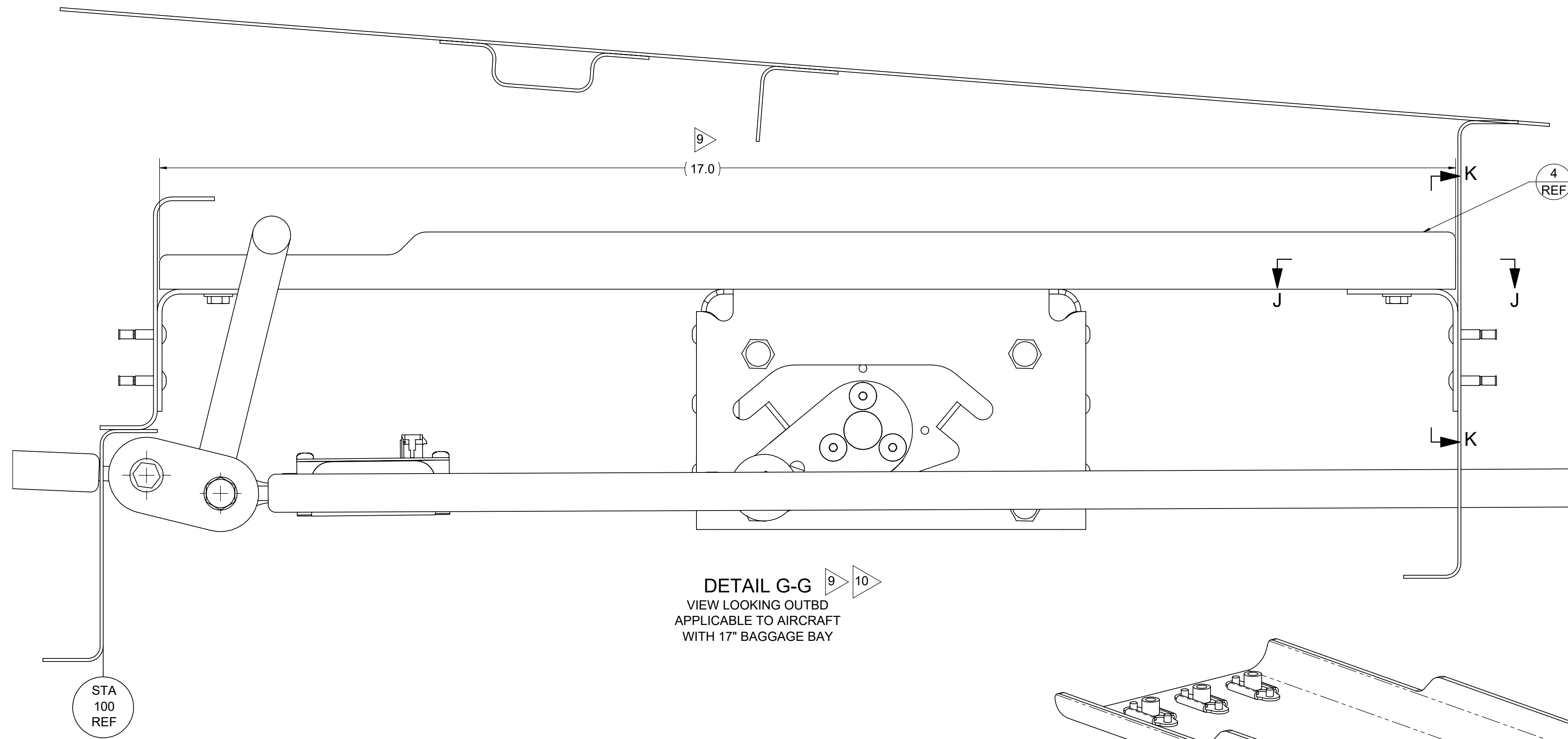
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SIZE D	DWG. NO. PA-201130-503	REV F
SCALE: N/A	DO NOT SCALE DRAWING	SHEET 3 OF 5

4

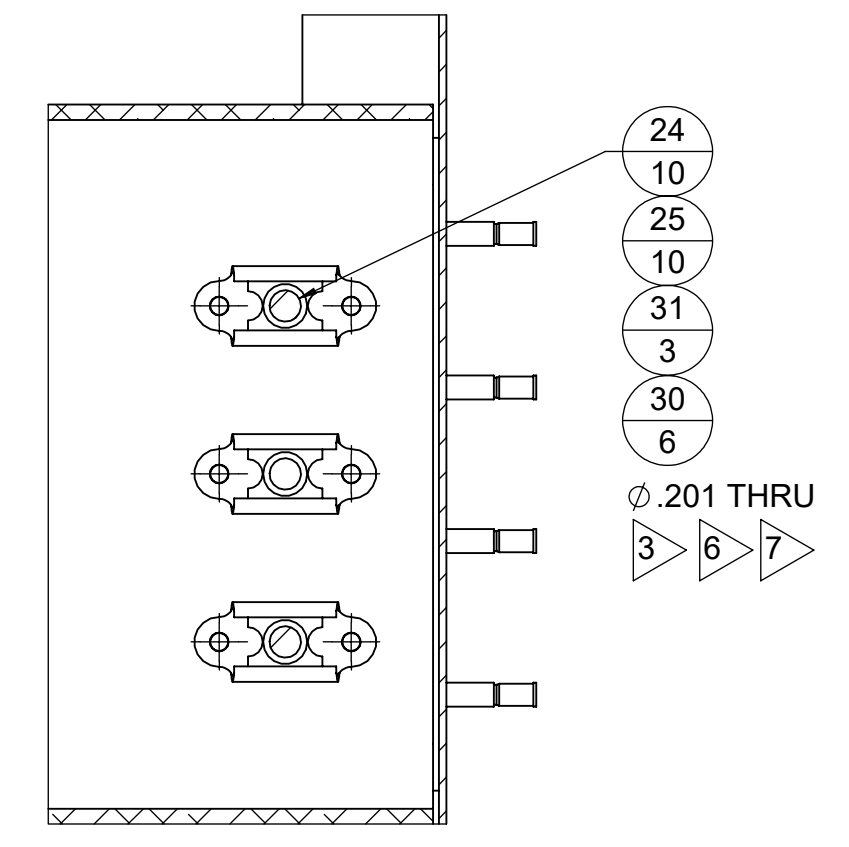
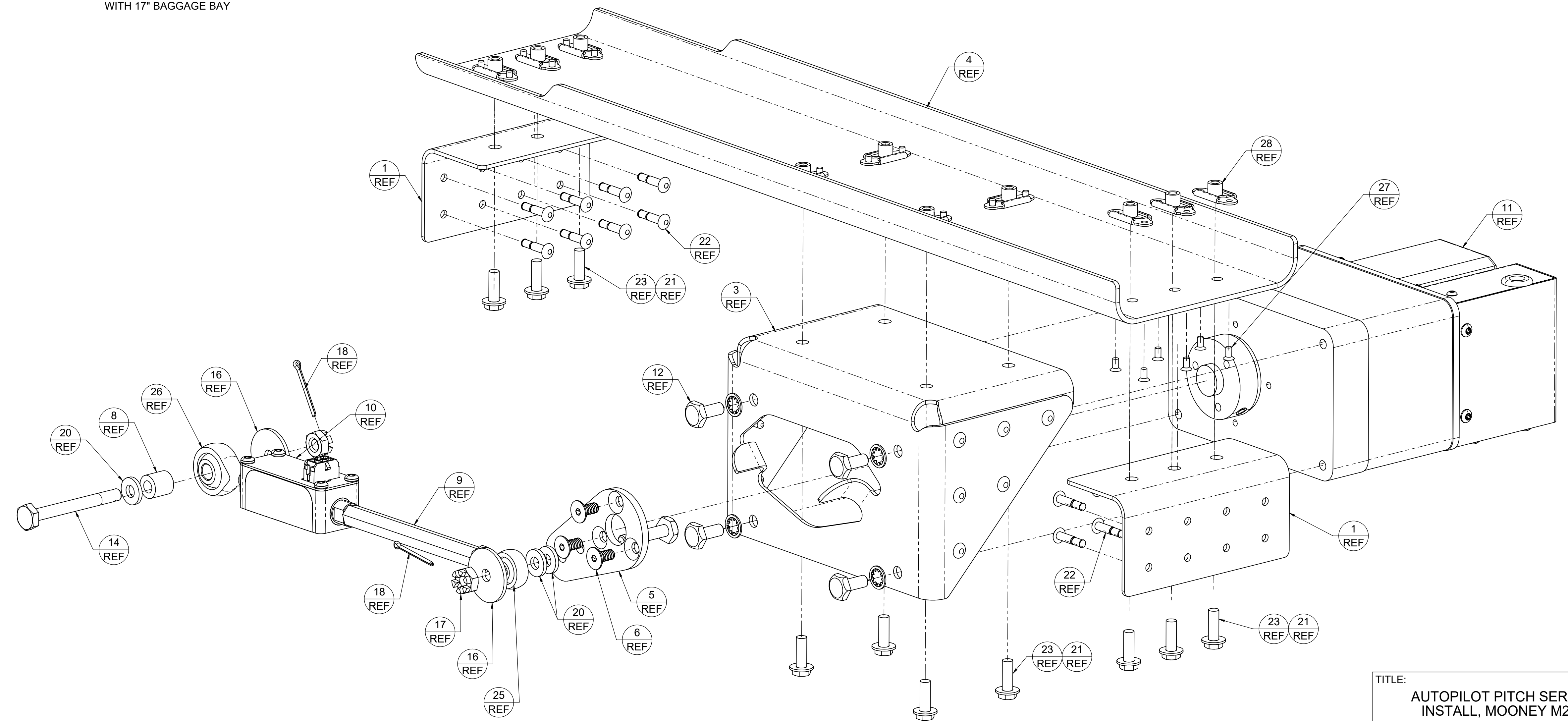
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2

1



DETAIL G-G
VIEW LOOKING OUTBD
APPLICABLE TO AIRCRAFT WITH 17" BAGGAGE BAY



REF EXPLODED VIEW FOR AIRCRAFT WITH 17" BAGGAGE BAY

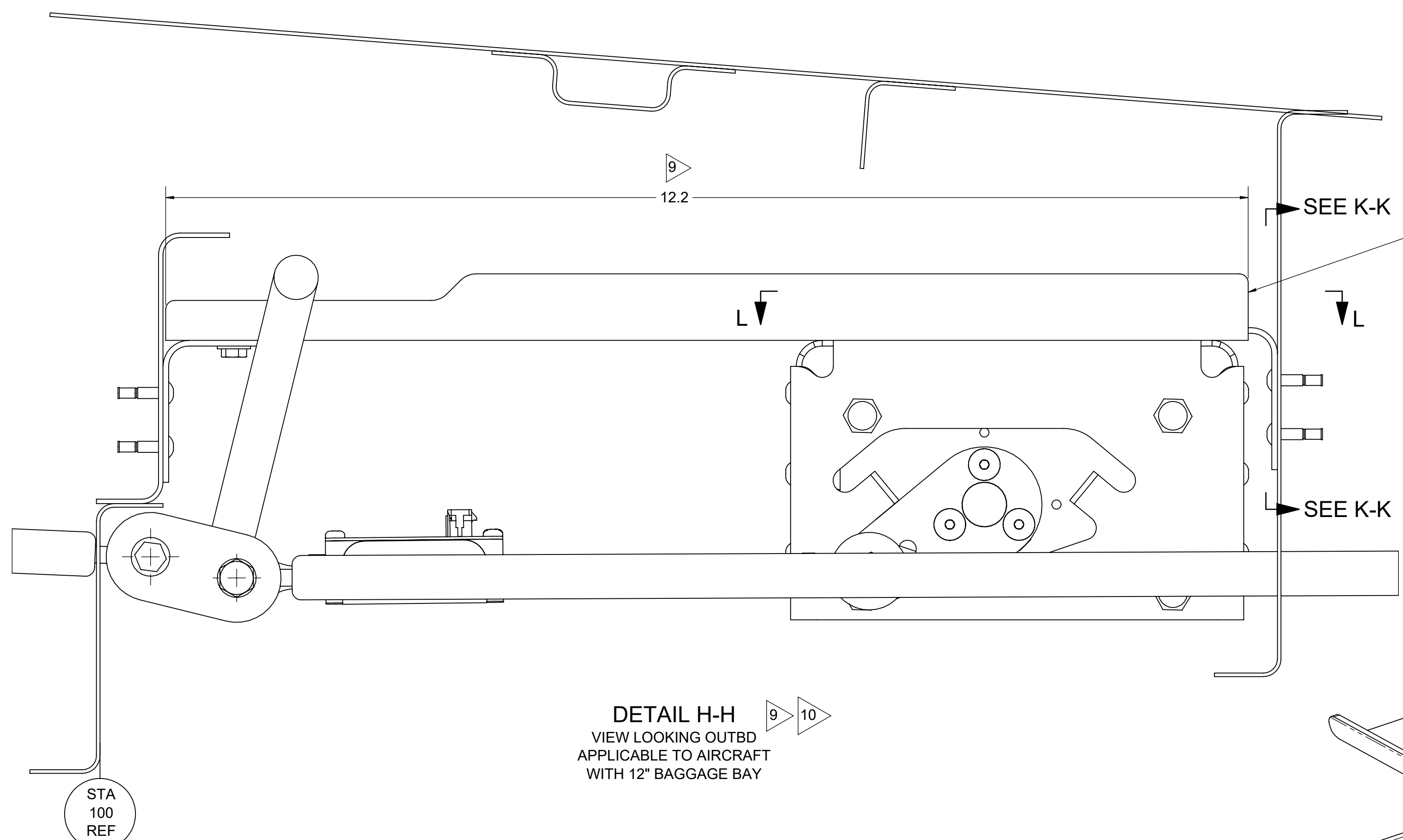
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SIZE D	DWG. NO. PA-201130-503	REV F
SCALE: N/A	DO NOT SCALE DRAWING	SHEET 4 OF 5

4

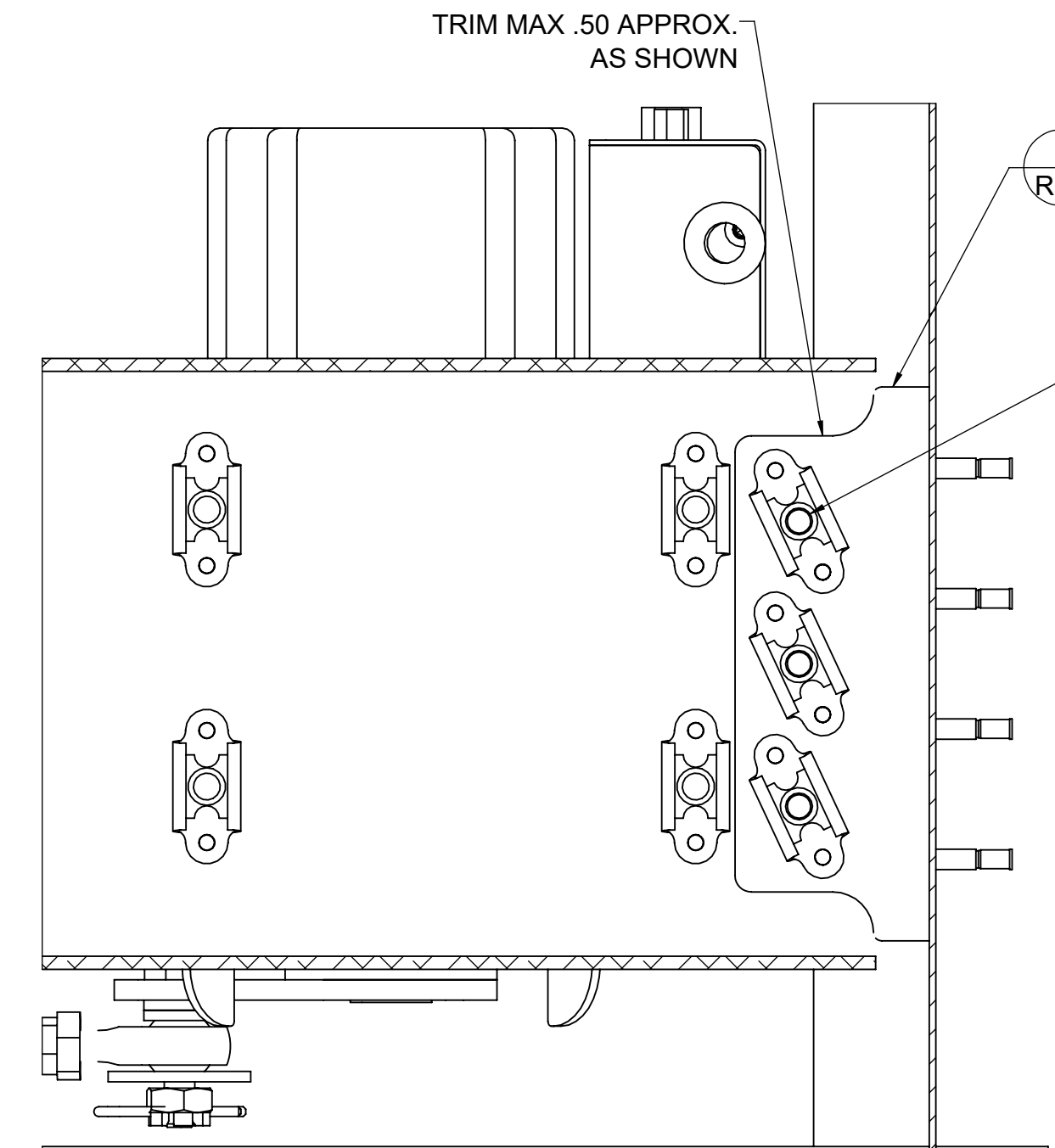
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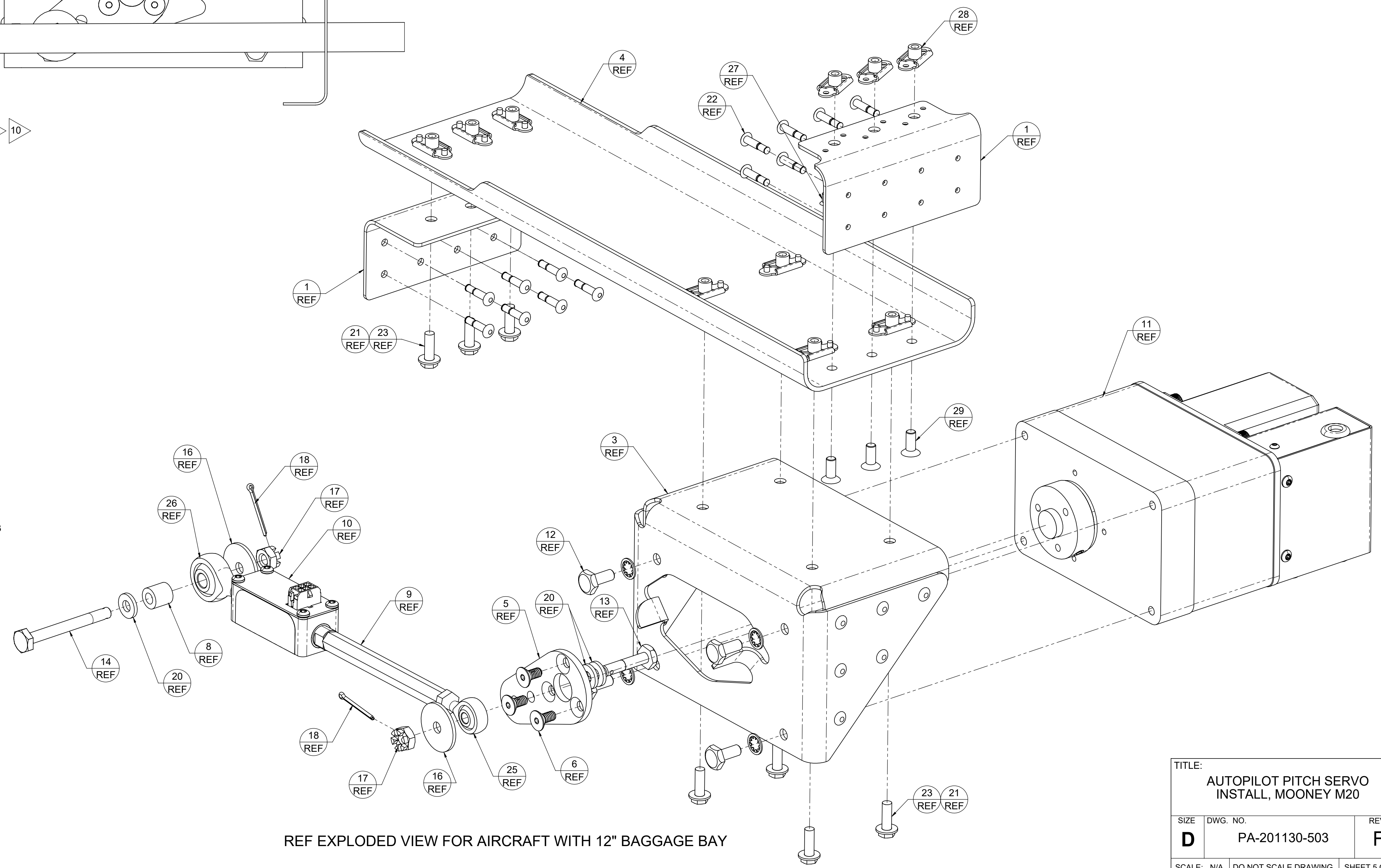
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DETAIL H-H
VIEW LOOKING OUTBD
APPLICABLE TO AIRCRAFT
WITH 12" BAGGAGE BAY



SECTION L-L
VIEW LOOKING DOWN



REF EXPLODED VIEW FOR AIRCRAFT WITH 12" BAGGAGE BAY

TITLE: AUTOPILOT PITCH SERVO INSTALL, MOONEY M20		
SIZE D	DWG. NO. PA-201130-503	REV F
SCALE: N/A	DO NOT SCALE DRAWING	SHEET 5 OF 5