

HELICOID FLIGHT (RIGHT HAND)
 SINGLE CONTINUOUS SCREW TYPE
 (BAR SIZE, BEFORE ROLLING, TO BE
 SUCH THAT FLITING O.D. IS AS SHOWN
 IN END VIEW AT RIGHT, AND OUTER
 EDGE THICKNESS IS AS SHOWN IN
 FLITING THICKNESS SPECIFICATION)

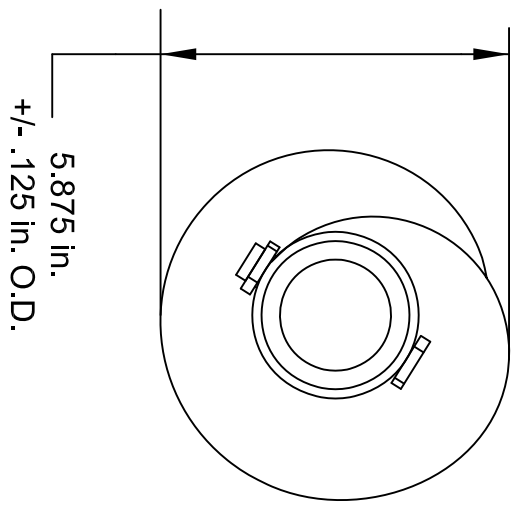
VIEW SHOWING COMPLETE
 AUGER WELDMENT

2 in. (2.375 O.D.)
 SCHEDULE 80 (.20 in. WALL)
 CARBON STEEL PIPE
 (PIPE SIZE E.R.W. TUBING ACCEPTABLE)

- SPECIFICATION NOTES**
1. PIPE PORTIONED WORTH (WITH WELDED FITTING) TO BE STRAIGHT TO GIVE MAXIMUM OF .20 IN. TOTAL RUNOUT
 2. BOTH STUB SHAFT CENTERLINES TO LIE ON PIPE CENTERLINE TO GIVE MAXIMUM OF .20 IN. TOTAL RUNOUT
 3. ALL SURFACES OF SLEEVE, SHAFT, AND OTHER PIPE WHICH MAKE CONTACT WITH EACH OTHER TO BE COATED WITH ANTI-SEIZE COMPOUND
 4. SHAFT IS REMOVED, AND NOT USED. WHEN AUGER IS USED IN A DIRECT DRIVE APPLICATION

DO NOT SCALE DRAWING TOLERANCES (UNLESS OTHERWISE NOTED)	
FLAME CUTTING, NIBBLING & WELDING	+/- .060
SHEARING & FORMING	+/- .030
PUNCHING	+/- .020
HOLE DIAMETERS	+ .015/- .005
ANGLES	+/- 2 DEG
DECIMAL MACHINING	0.0- +/- .040
	0.00- +/- .020
	0.000- +/- .005

IMPLIED TOLERANCES DO NOT APPLY TO REFERENCE DIMENSIONS



PA DEPARTMENT OF TRANSPORTATION

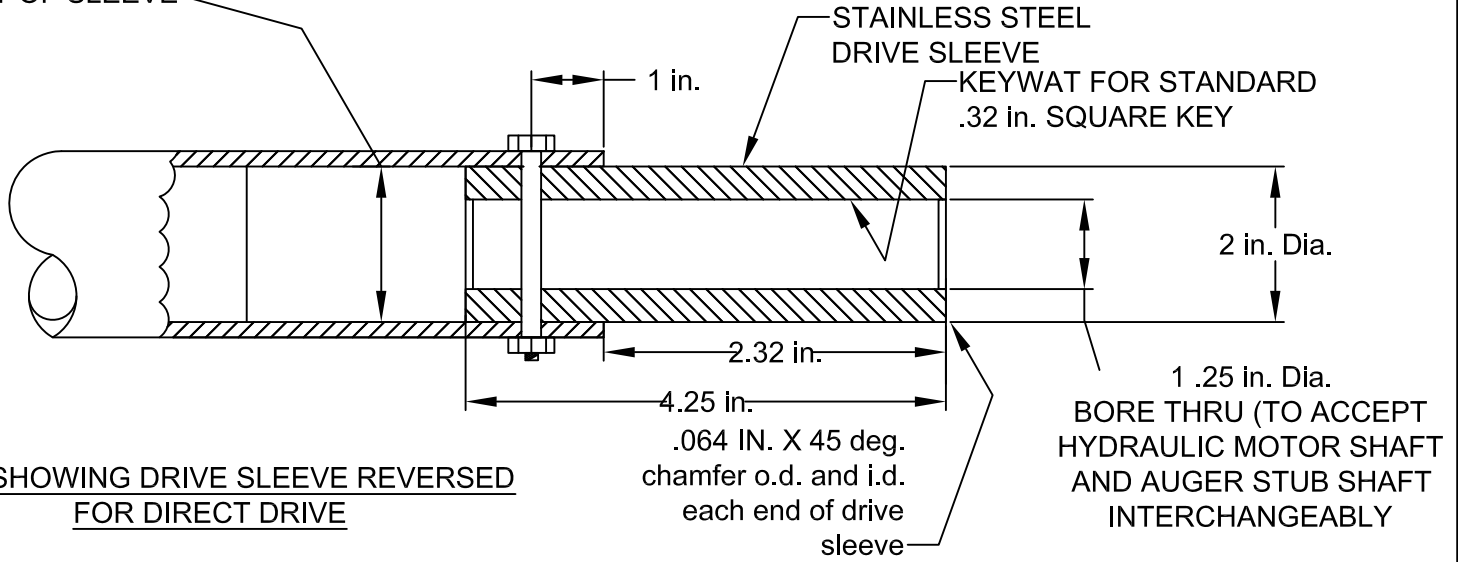
REVISIONS

NO.	DATE	BY	DESCRIPTION
1	01-09-98	DLW	
2	05-28-02	DWG	
3	9-20-07	BAG	

PennDOT SPREADER AUGER DETAIL
 (S/S & RUBBER TROUGH)

DRAWN BY	DLW	SCALE	N/A	EQU-6
DATE	01-09-98	CHKD BY	WHM	SHEET 1 OF 3

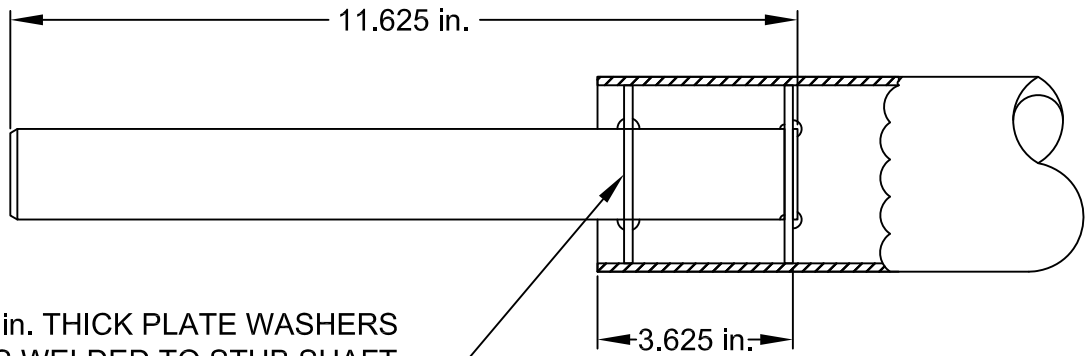
I.D. OF PIPE BORED
FOR CLOSE SLIDING
FIT OF SLEEVE



VIEW SHOWING DRIVE SLEEVE REVERSED
FOR DIRECT DRIVE

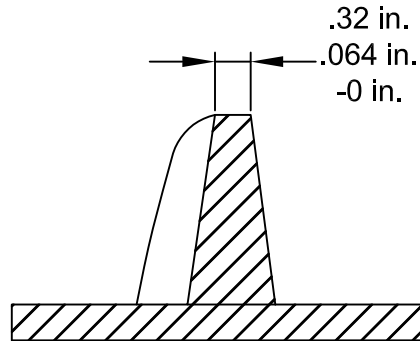
PA DEPARTMENT OF TRANSPORTATION

REVISIONS			PennDOT SPREADER AUGER DETAIL (S/S & RUBBER THROUGH)		
NO.	DATE	BY	DRAWN BY	SCALE	
1	01-09-98	DLW			
2	05-28-02	DWG	DLW	N/A	EQN-6
3	9-20-07	BAG	01-09-98	WHM	SHEET 2 OF 3



.125 in. THICK PLATE WASHERS
CONTINUOUS WELDED TO STUB SHAFT
AND AUGER PIPE

WASHERS TO FIT I.D. OF PIPE WITH
CLOSE SLIDING FIT SO NO FLEXING
OF SHAFT EXISTS AFTER FINAL WELDING



**FLITING THICKNESS SPECIFICATION
(BEFORE HARDSURFACING)**

.125 in. (MINIMUM)
HARDSURFACE

CONTINUOUS WELD
BOTH SIDES OF
FLITING



OUTER FLITE PERIPHERY CONTINUOUSLY
HARDSURFACED WITH ABRASIVE RESISTANCE
WELDING ROD (OR WIRE) EQUIVALENT TO
STUDY 121 (ROCKWELL HARDNESS C-44),
AND TO BE FULL WIDTH OF FLITING
THICKNESS AT OUTEREDGE

WELDING AND HARDSURFACE SPECIFICATION

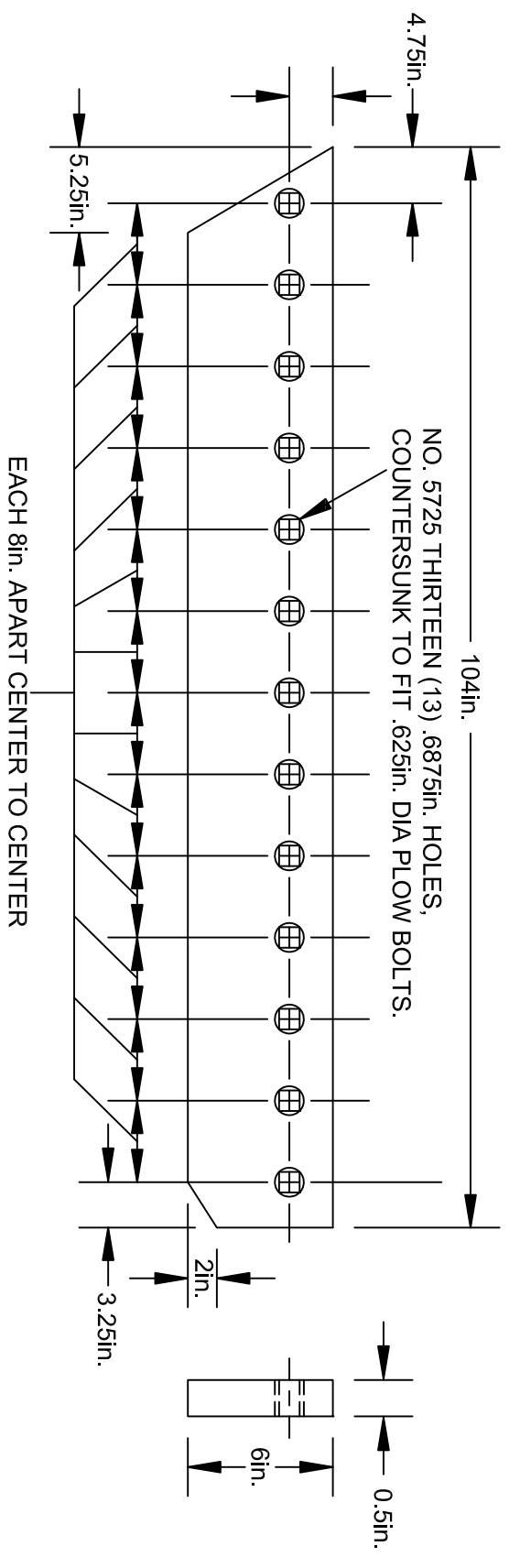
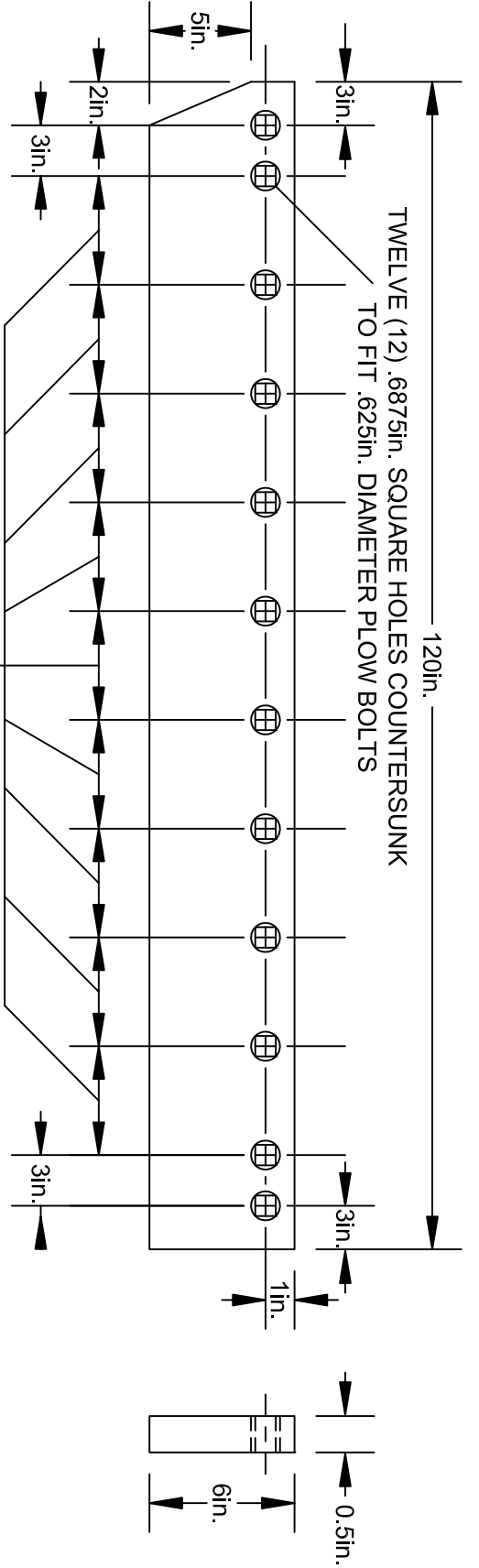
PA DEPARTMENT OF TRANSPORTATION

REVISIONS

NO.	DATE	BY
1	1-09-98	DLW
2	05-28-02	DWG
3	09-20-07	BAG

PennDOT SPREADER AUGER DETAIL
(S/S & RUBBER THROUGH)

DRAWN BY	DLW	SCALE	N/A	EQN-6
DATE	01-09-98	CHK'D BY	WHM	SHEET 3 OF 3

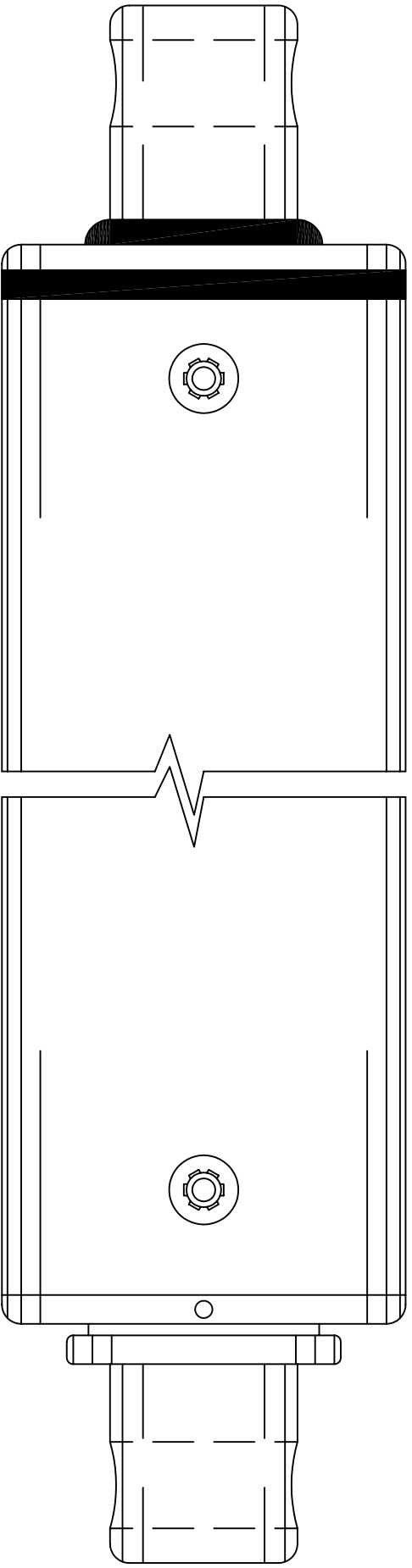


- NOTES:
1. ALL DIMENSIONS ARE IN INCHES.
 2. MATERIAL: CARBON STEEL AISI 1080-1085 BRINELL HARDNESS 250-325*

EACH BLADE SECTION SHALL BE PUNCHED WITH A DATE OF MANUFACTURE AND THE MANUFACTURER'S NAME.

*STEEL SPECIFICATION.

PA DEPARTMENT OF TRANSPORTATION REVISIONS			STEEL CUTTING EDGES FOR SNOW PLOWS		
NO.	DATE	BY	DRAWN BY	DLW	EQN-16A
1	06-14-07	KNH	JJB	02-06-96	SHEET 1 OF 2
2	07-29-15	JJB			
3	08-09-18	KBD			

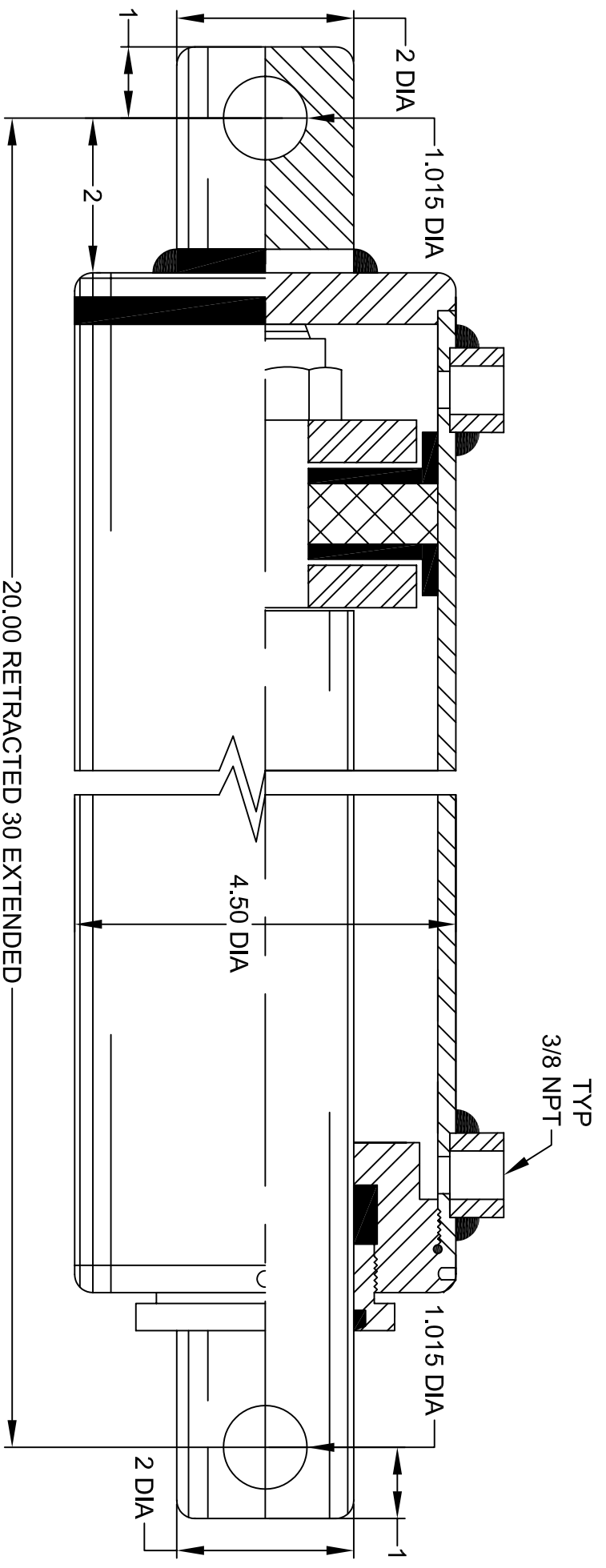


PA DEPARTMENT OF TRANSPORTATION

REVISIONS			PLOW RAM		
NO.	DATE	BY			
1					
2					
3					
4					
5					

DRAWN BY **CJW** SCALE **N/A** EQN-24

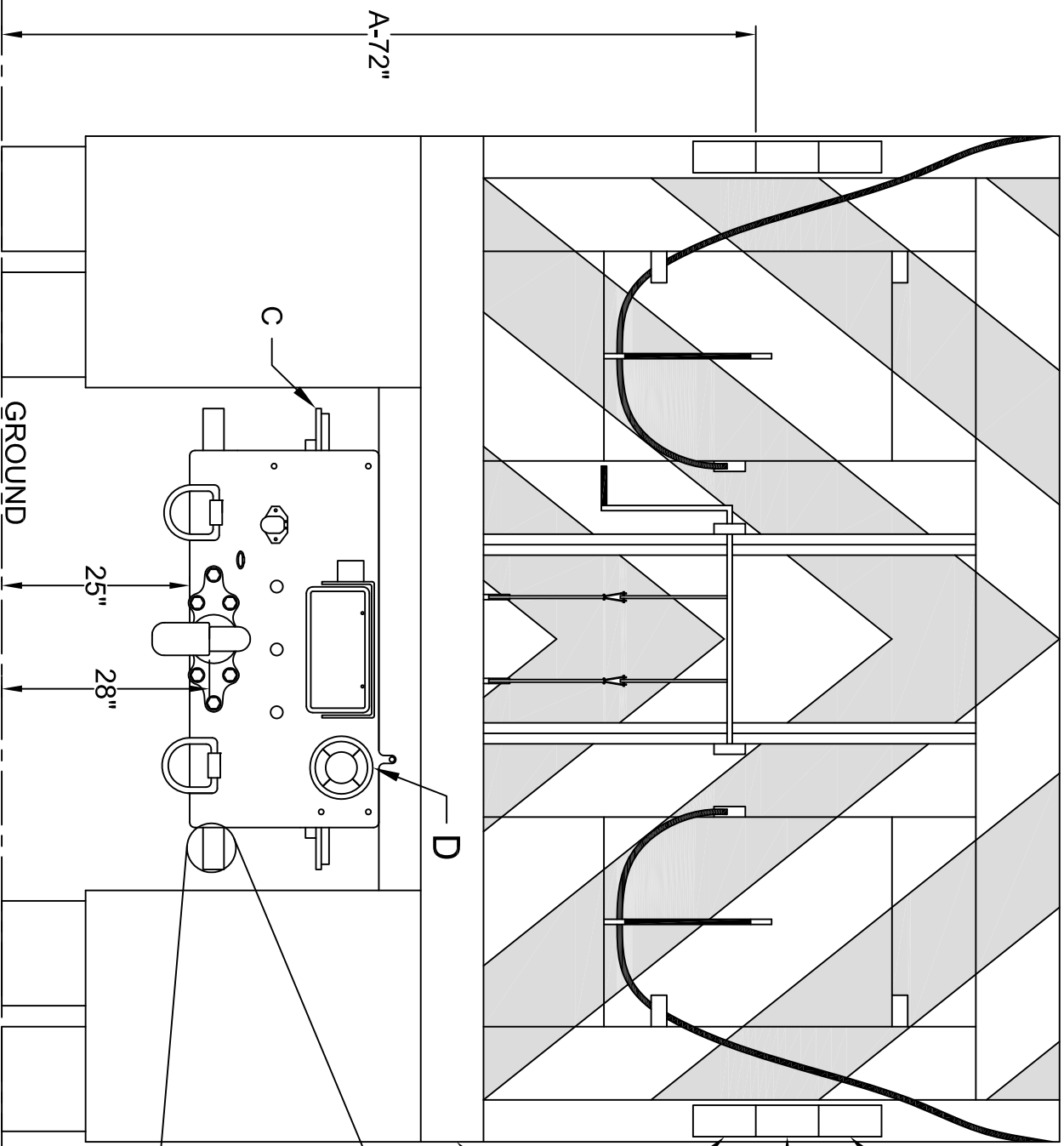
DATE **12-11-06** CHECKED BY **KGK** SHEET **1 OF 2**



PA DEPARTMENT OF TRANSPORTATION

REVISIONS			PLOW RAM		
NO.	DATE	BY			
1					
2					
3					
4					
5					

NO.	DATE	BY	DRAWN BY		
1			CJW		
2			SCALE		
3			N/A		
4			CHECKED BY		
5			KGK		
			DATE		
			12-11-06		
			SHEET 2 OF 2		
			EQU-24		



YELLOW STROBE
 REVERSE
 STOP / TAIL / TURN

PINNED ICC BUMPER
 MINIMUM 0.50" DIA PINS,
 CHAINED, HAIR PINS

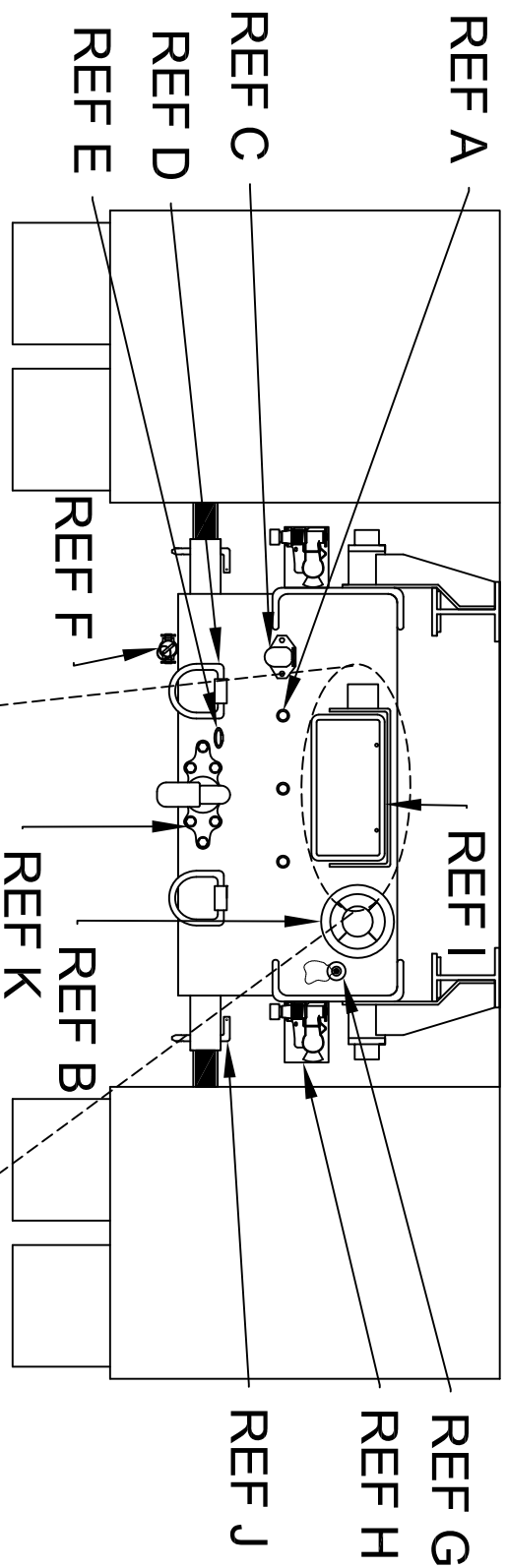
- NOTES:**
- A. HEIGHT OF LIGHTS SHLL NOT EXCEED 72". MEASURED FROM GROUND LEVEL TO TOP OF STOP / TAIL / TURN LIGHT WHEN IS BODY UNLOADED.
 - B. SHALL BE ONE PIECE DESIGN, 3/8" X 6" MINIMUM 60661-T6. IT SHALL BE COMPLETELY WELDED AND SURFACE SHALL BE FLUSH FULL LENGTH TO ALLOW MOUNTING OF THE SPREADER WITH NO GAPS.
 - C. GLAD HANDS
 - D. PLACE AS HIGH AS POSSIBLE ON REAR MODULE.

PA DEPARTMENT OF TRANSPORTATION

REVISIONS

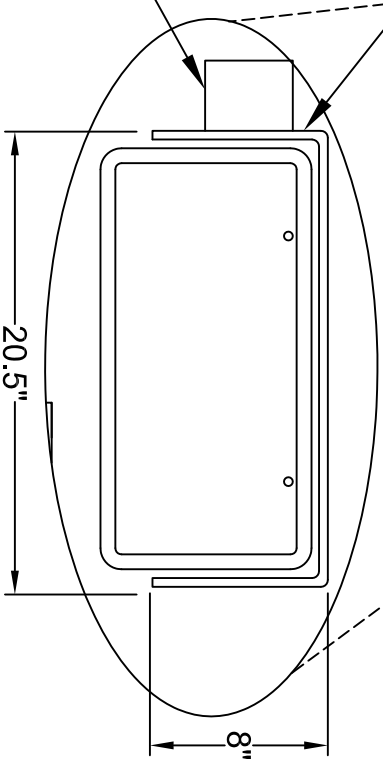
NO.	DATE	BY	REAR MODULE WITH RECESSED LICENSE PLATE
1	08-08-19	KBD	
2	07-21-23	DVC	
3			

DATE	SCALE	SHEET
08-02-16	N/A	EQN-26B
		SHEET 1 OF 3



1 1/4" WIDTH STEEL FRAME TO
GO AROUND LICENSE PLATE

LICENSE PLATE LIGHT



Note: Lisence plate with stainless hardware
with locking nuts

NOTES:

- A. REFLECTORIZED M/C LAMP (RED)
- B. ECCO 450 BACK UP ALARM
- C. TRAILER 7 ROUND PIN TYPE RECEIVER
- D. EACH "D" RING - MINIMUM BRAKING STRENGTH EQUIVALENT TO HITCH WEIGHT
- E. TRAILER BRAKE-AWAY RING
- F. PRE WET LIQUID SUPPLY
- G. AUGER SENSOR
- H. TRAILER AIR BRAKE GLAD HANDS MUST NOT EXTEND PAST FRAME RAIL
- I. LICENSE PLATE
- J. MIN .5" DIA PINS, CHAINED, HAIR PINS
- K. HITCH

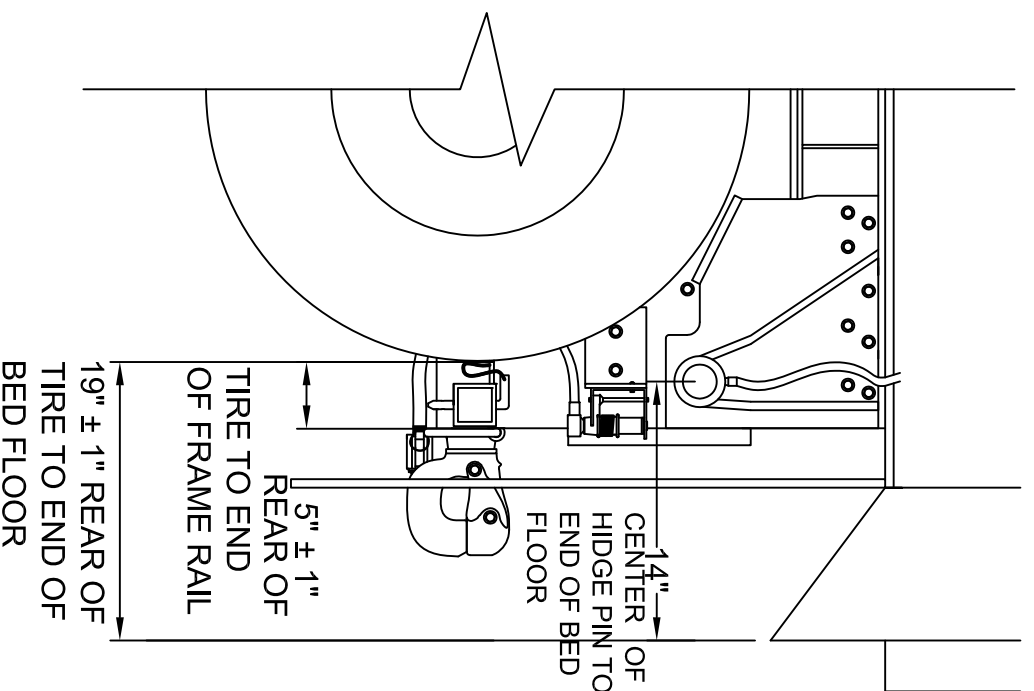
PA DEPARTMENT OF TRANSPORTATION

REVISIONS

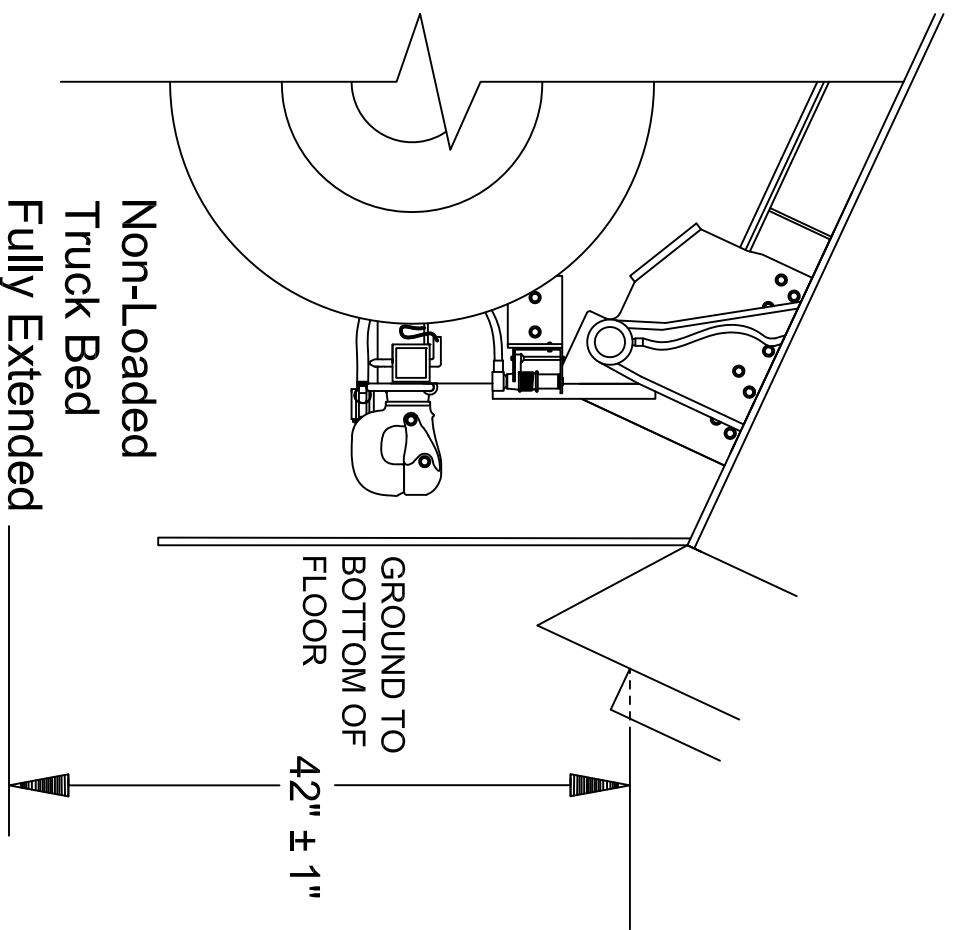
NO.	DATE	BY	REAR MODULE WITH RECESSED LICENSE PLATE
1	08-08-19	JJB	
2	07-21-23	DVC	
3			

REAR MODULE WITH RECESSED
LICENSE PLATE

DRAWN BY JJB SCALE N/A
DATE 08-02-16 CHGD BY EQN-26B



SIDE VIEW



DUMP TRUCK REAR MODULE

THIS DRAWING IS NOT INTENDED TO SHOW ACTUAL BODY HINGE PIN PLACEMENT. CORRECT BODY HINGE PIN PLACEMENT TO MEET THE VEHICLES INTENT STATEMENT IS THE VENDORS RESPONSIBILITY.

PA DEPARTMENT OF TRANSPORTATION

REVISIONS

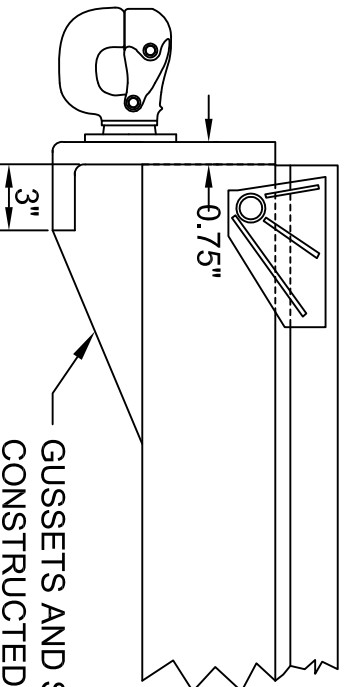
NO.	DATE	BY	REASON
1	08-08-19	KBD	REAR MODULE
2	07-21-23	DVC	
3			

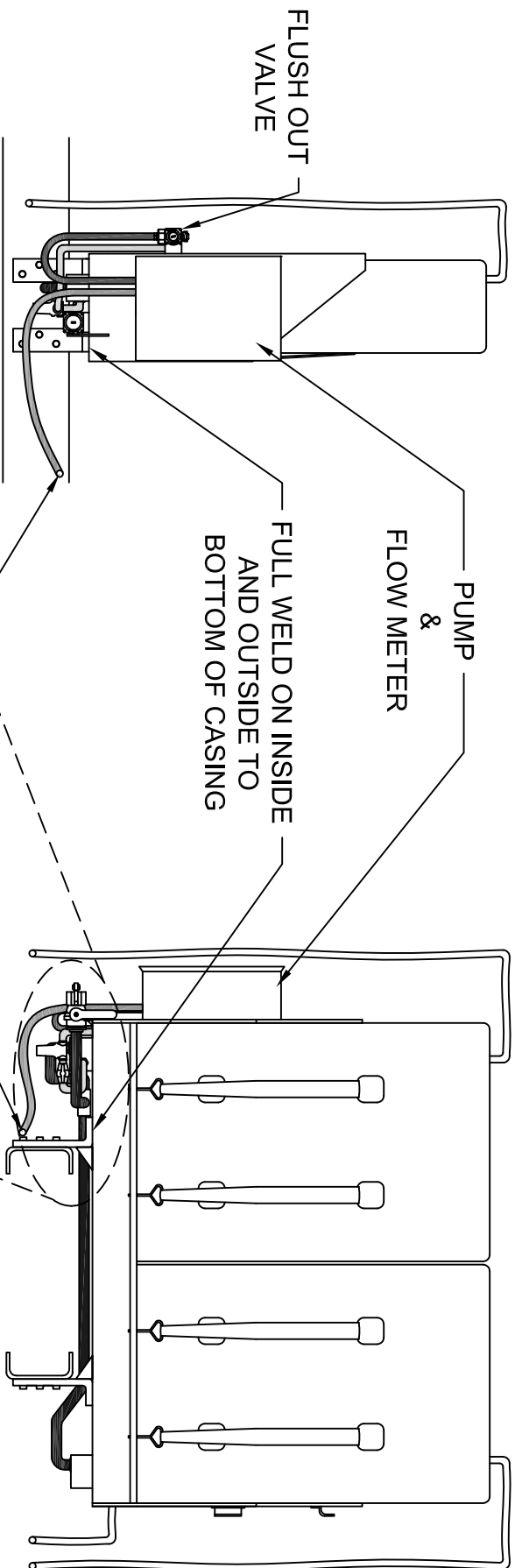
TANDEM AXLE DUMP TRUCK REAR MODULE

DRAWN BY: KBD SCALE: EQN-26B

DATE: 07-15-18 CHECKED BY: Sheet 3 of 3

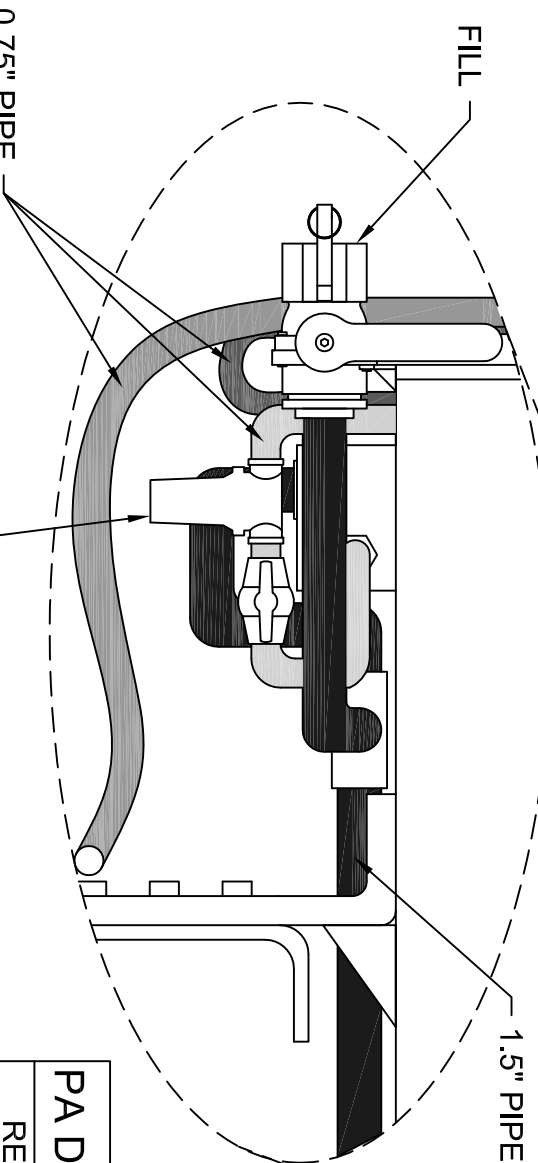
GUSSETS AND SUPPORTS SHALL BE CONSTRUCTED TO MEET 25 TON PINTLE REQUIREMENTS.





SIDE VIEW

FRONT VIEW



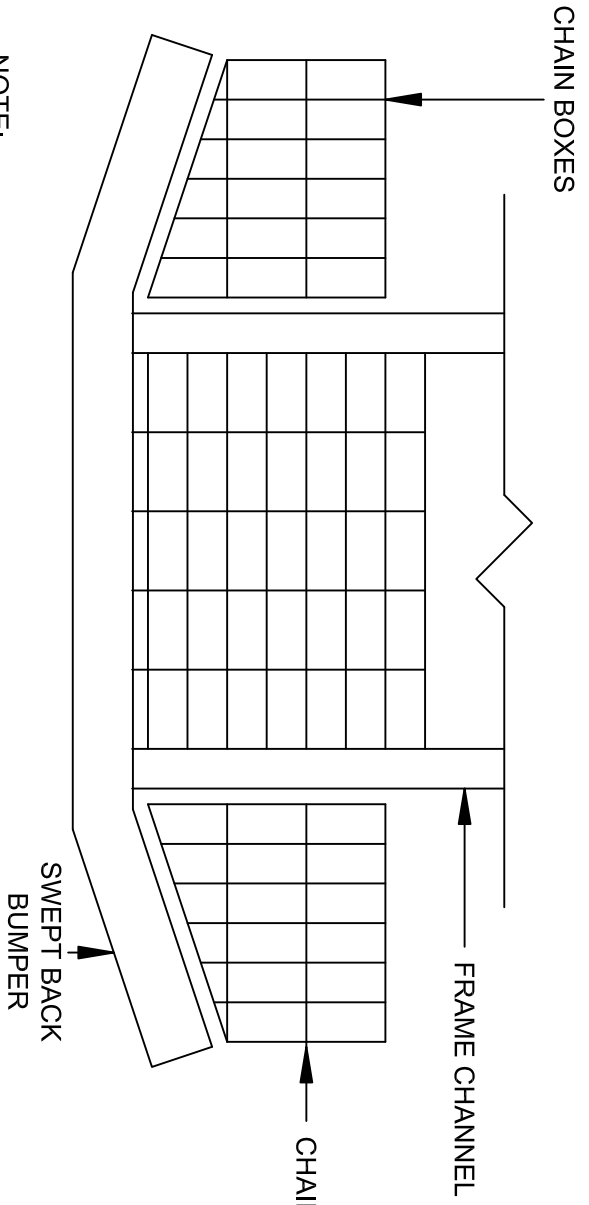
NOTE:
CASING TO BE STAINLESS STEEL

PA DEPARTMENT OF TRANSPORTATION

REVISIONS		DOUBLE PRE-WET BRINE TANK	
NO.	DATE	BY	
1			
2			
3			

DRAWN BY	HMR	SCALE	N/A	EQN-28C
DATE	08-08-17	CHK'D BY		SHEET 1 OF 1

AERIAL VIEW

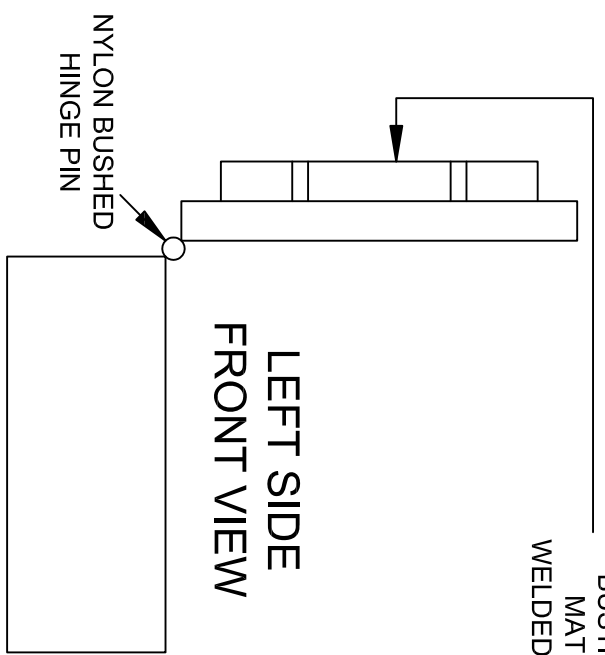


* LEFT SIDE BOX SHOWN, REVERSE FOR RIGHT SIDE.
 * GIVEN DIMENSIONS ARE APPROXIMATE AND MAY REQUIRE ALTERATION TO ADAPT TO MAKE / MODEL OF TRUCK AND STYLE OF BUMPER.

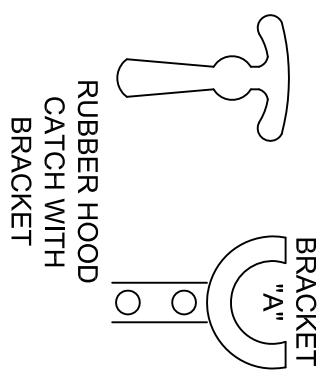
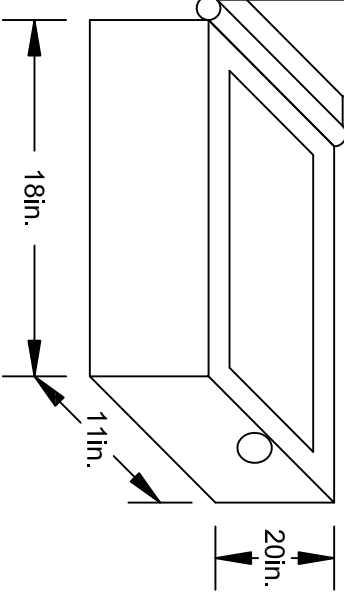
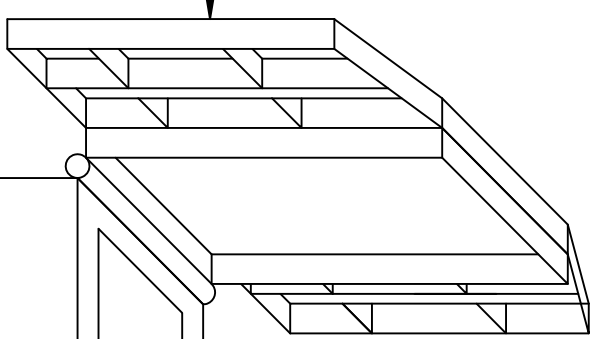
NOTE:
 THERE SHALL BE SUFFICIENT ALUMINUM BUSTIN TYPE MATERIAL TO COVER THE ENTIRE AREA FROM GRILL TO BUMPER AND FRAME RAIL TO FRAME RAIL.

ALUMINUM BUSTIN TYPE MATERIAL WELDED IN PLACE

LEFT SIDE FRONT VIEW



GRILL TO BUMPER AND BOXES SHALL BE SUPPORTED IN SUCH A WAY TO ENSURE SUPPORT OF A 200 lb. MAN IN ANY 12in. AREA.



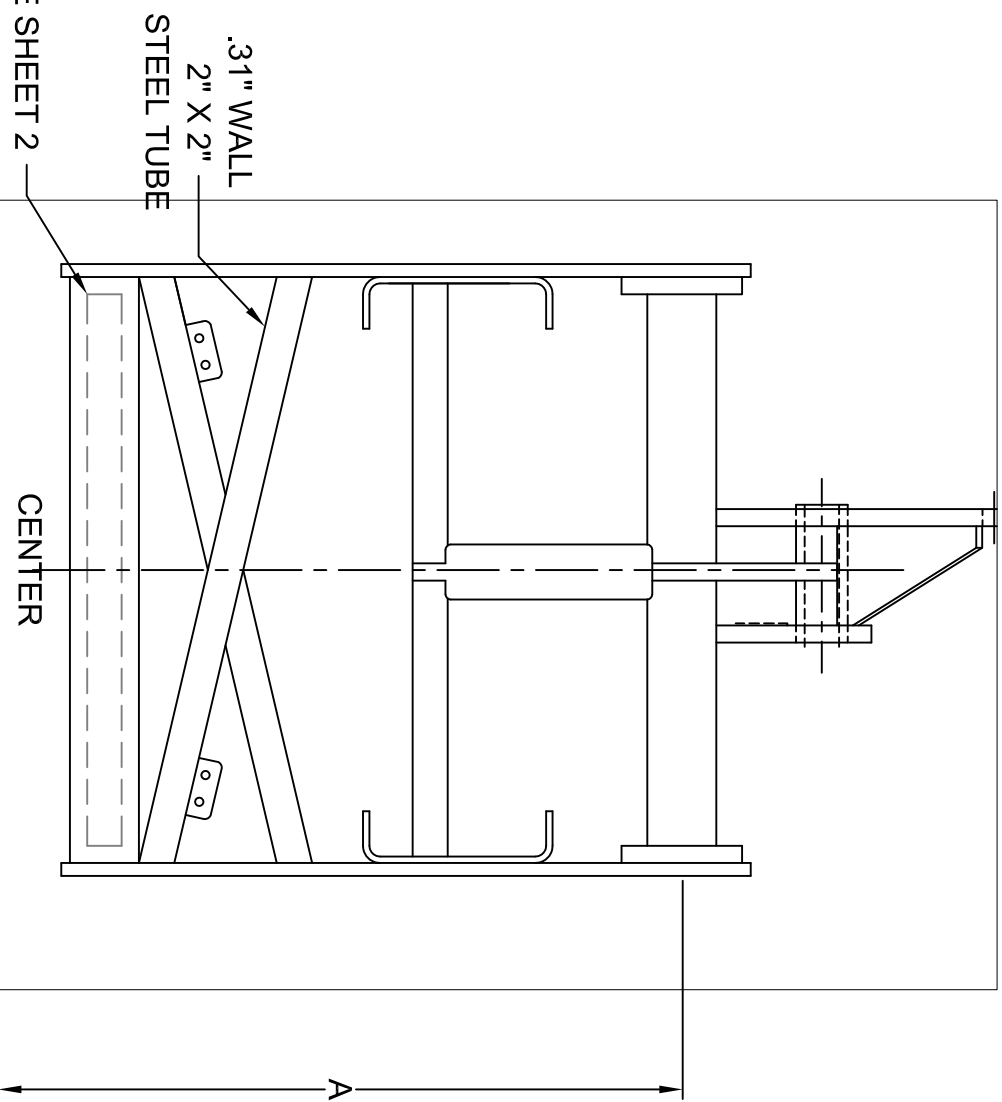
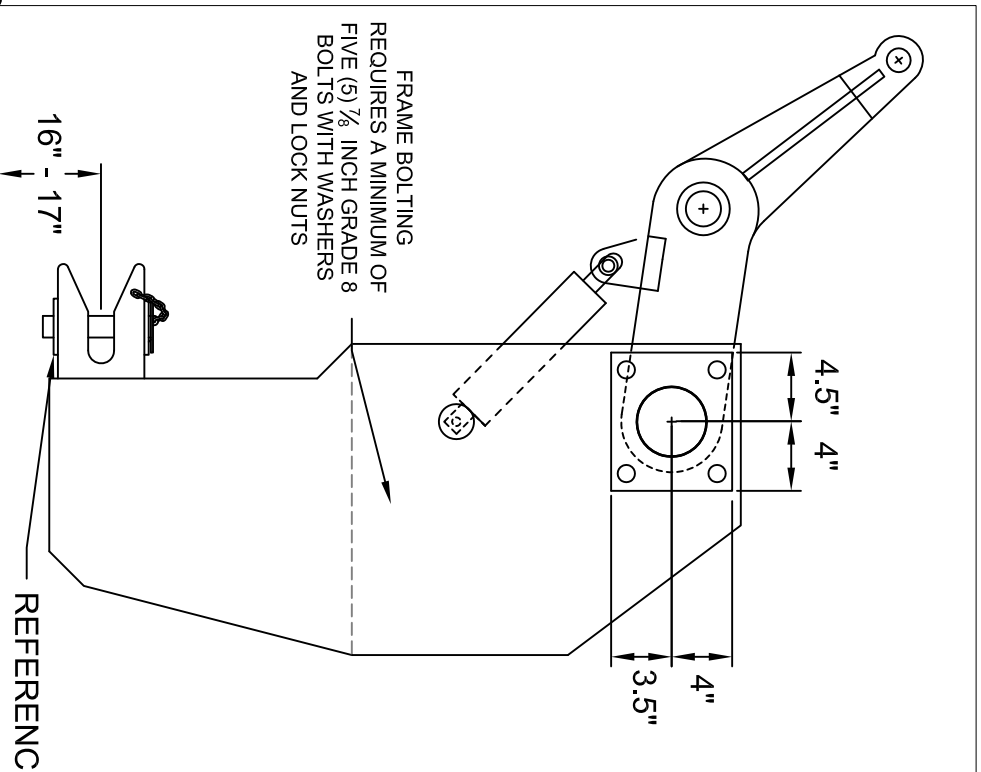
PA DEPARTMENT OF TRANSPORTATION

REVISIONS

NO.	DATE	BY	DWG	SCALE	CHG'D BY	EQN-32
1	05-22-02	KNH	DWG	N/A	RED	EQN-32
2	07-17-07	KNH	DWG	N/A	RED	EQN-32
3	07-24-18	KBD	DWG	N/A	RED	EQN-32

DUMP TRUCK CHAIN BOXES

GRADE 8 BOLTS MINIMUM QUANTITY 4
 MINIMUM OF FOUR 0.75in. DRAIN HOLES



NOTES:

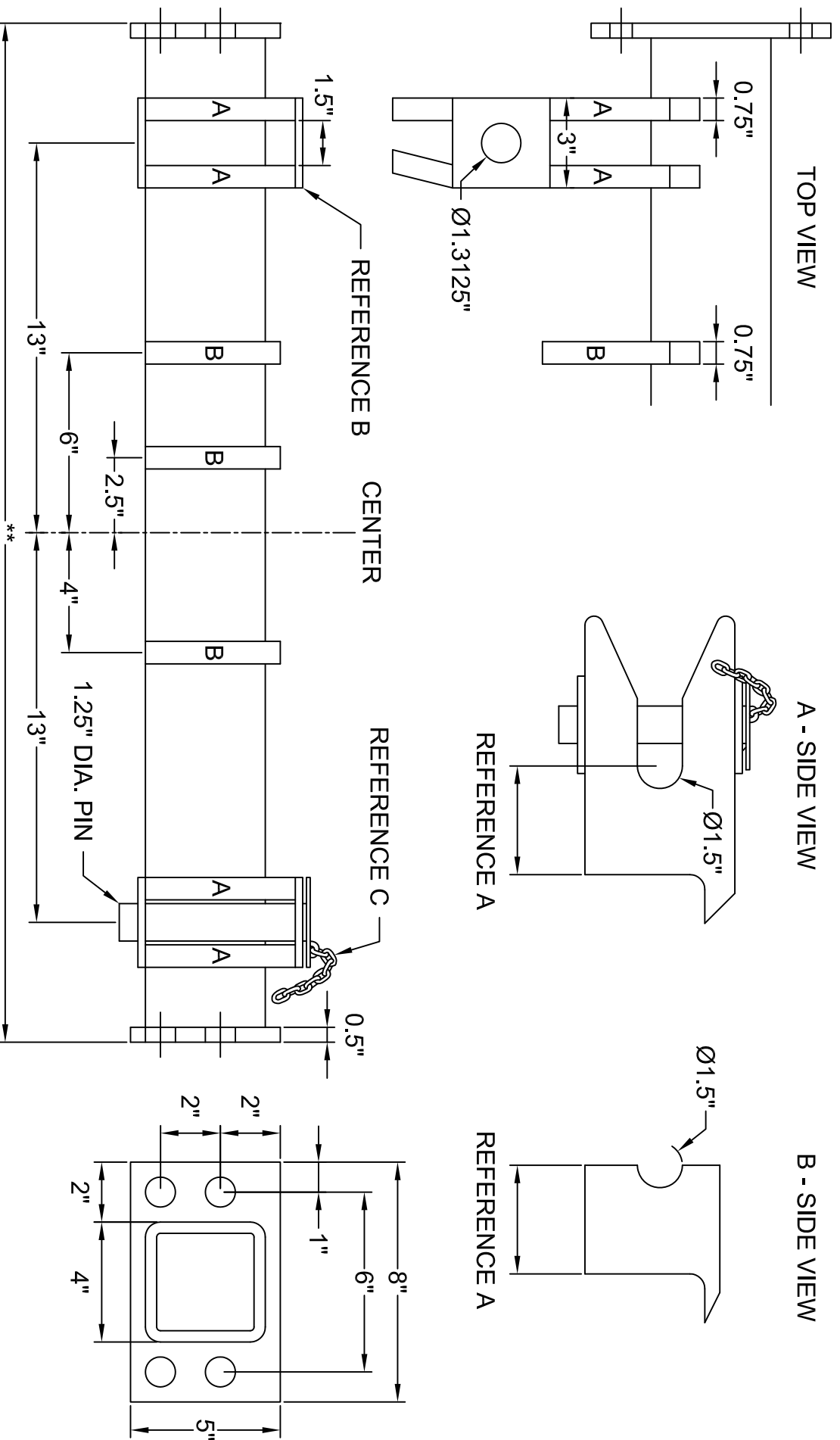
- ALL GREASE ZERKS SHALL BE SURROUNDED BY A SHORT LENGTH OF PIPE (WELDED IN PLACE) OR PLACED IN A RECESSED HOLE.
- "A" - HEIGHT SHALL BE SUFFICIENT TO AFFORD UNRESTRICTED LIFT FOR PENNDOT PLOWS. 16 INCH MINIMUM LIFT.
- ALL HYDRAULIC CONNECTIONS TO THE PLOW HOIST CYLINDER SHALL BE POSITIONED TO THE SIDES OR REAR TO PREVENT HOSE DAMAGE WHILE CONNECTING / DISCONNECTION TO THE FRONT PLOW.
- ALL FINAL DIMENSIONS AND ANGLES SHALL BE VERIFIED THROUGH FIELD VISITATIONS AND CORRESPONDING WITH THE FLEET MANAGEMENT DIVISION.

PA DEPARTMENT OF TRANSPORTATION

REVISIONS

NO.	DATE	BY	FRONT PLOW HITCH ASSEMBLY
1	04-27-15	GAW	
2	12-19-16	JJB	
3	08-02-18	KBD	

DATE	DRAWN BY	SCALE	EQUATION
09-25-95	SWW	N/A	EQU-50
	CHKD BY		
	WHM		



NOTES:

- A. CENTER SUPPORT RADIUS OF SUPPORT "A" SHALL BE IN DIRECT LINE WITH PLOW PUSH BAR.
- B. SUPPORT "A" SHALL HAVE 0.25" THICK PLATES ON TOP AND BOTTOM.
- C. PLOW PINS SHALL BE ATTACHED WITH CHAIN TO PLOW FRAME.

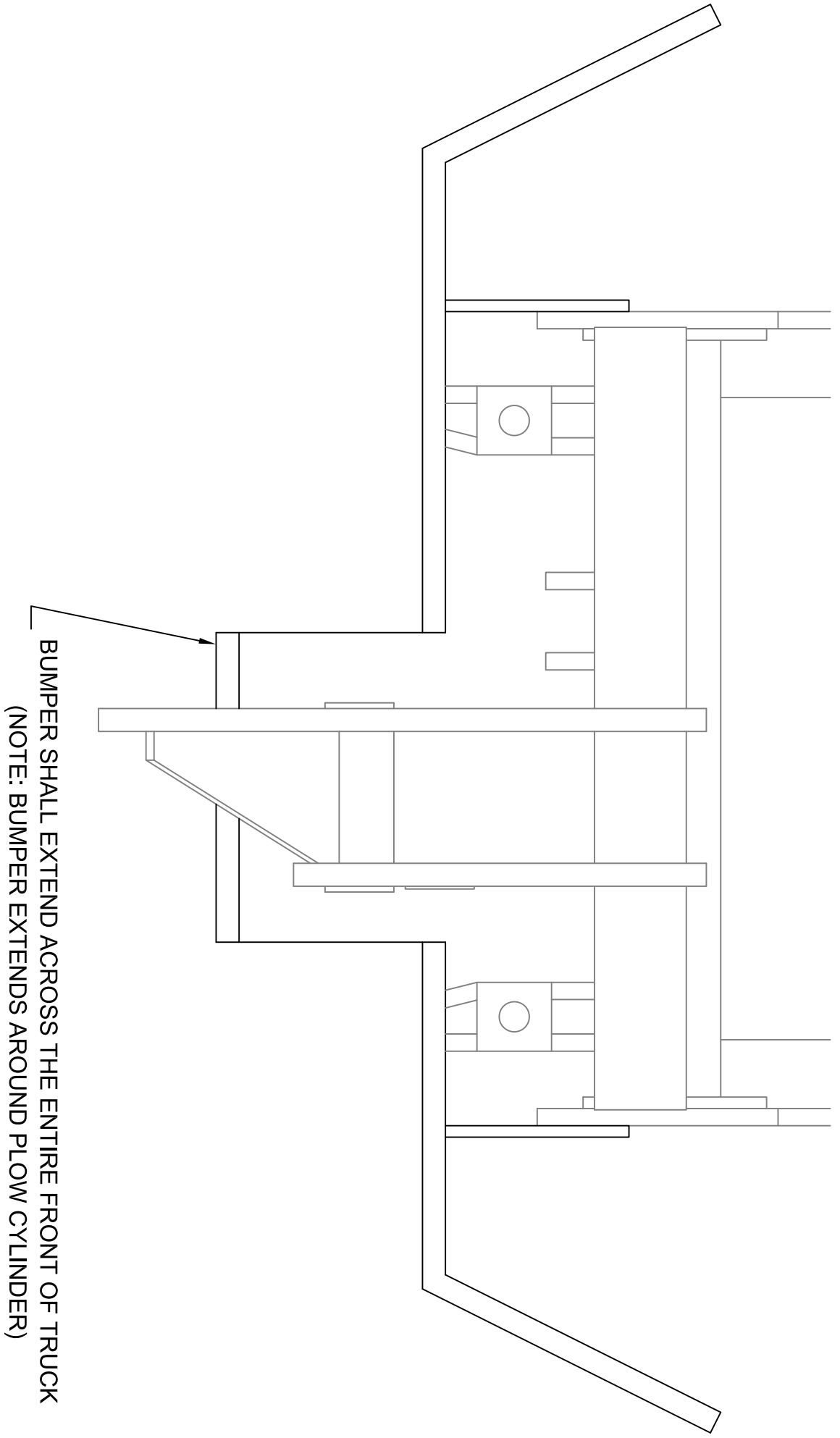
* VARIABLE WIDTH ASSEMBLY, CHECK CHASSIS FRAME RAIL WIDTH *
 ALL FINAL DIMENSIONS AND ANGLES SHALL BE VERIFIED THROUGH FIELD VISITATION AND CORRESPONDENCE WITH THE FLEET MANAGEMENT DIVISION.

PA DEPARTMENT OF TRANSPORTATION

FRONT PLOW HITCH ASSEMBLY

REVISIONS			
NO.	DATE	BY	
1	04-27-15	GAW	
2	12-19-16	JJB	
3	08-02-18	KBD	

DRAWN BY	SCALE	EQU-50
SWW	N/A	
DATE	CHG'D BY	SHEET 2 OF 4
09-25-95	WHM	



ADDITIONAL BUMPER SUPPORTS SHALL BE FABRICATED AND
 INSTALLED TO INSURE BUMPER RIGIDITY

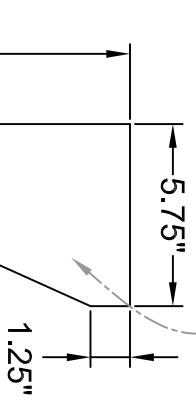
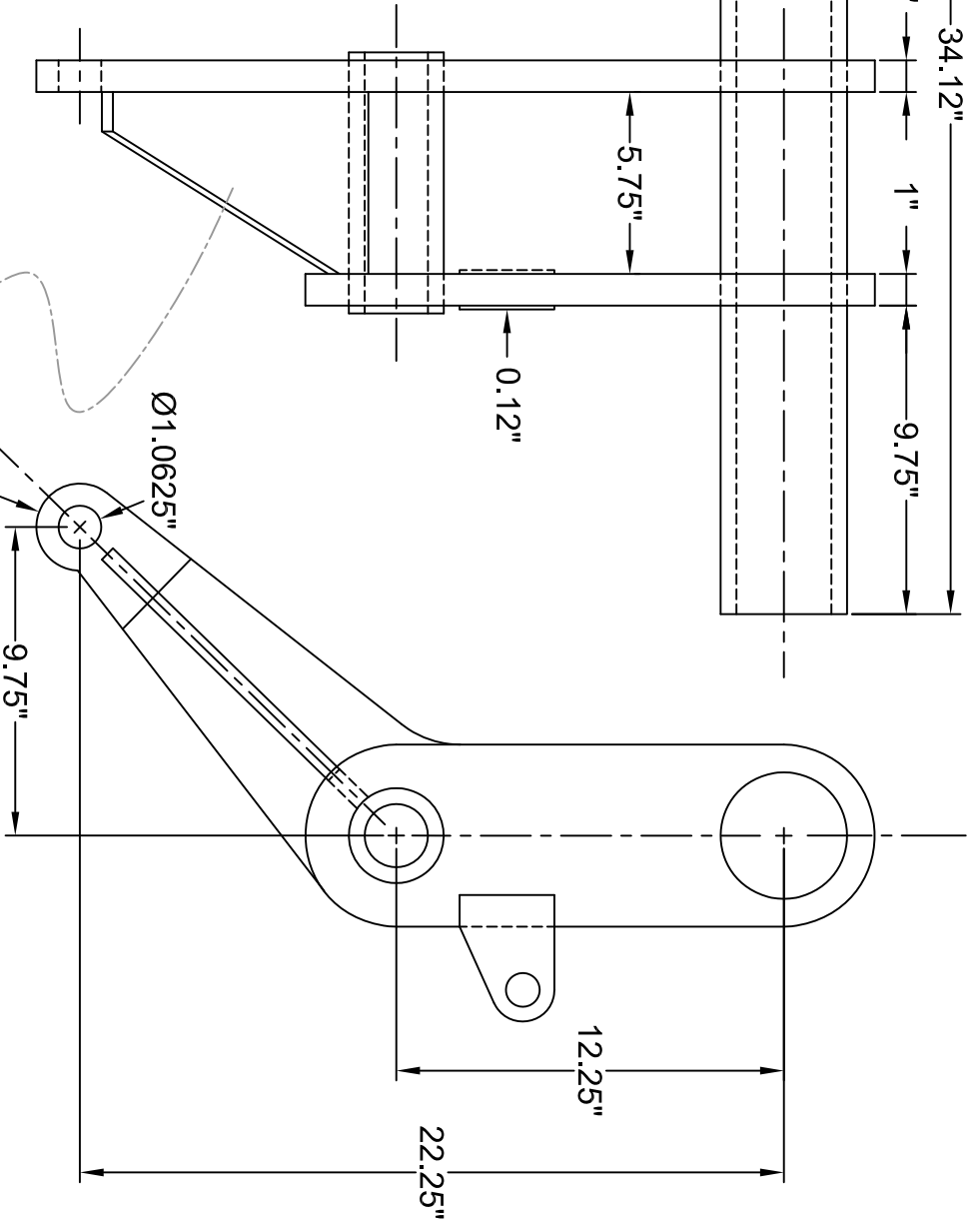
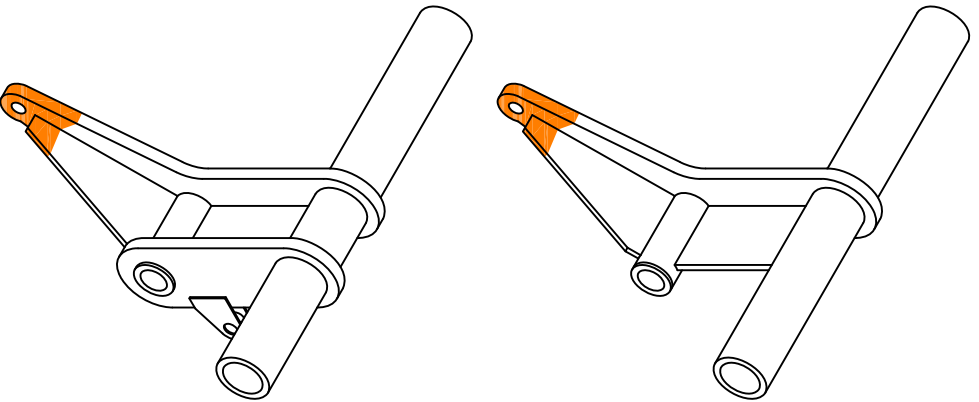
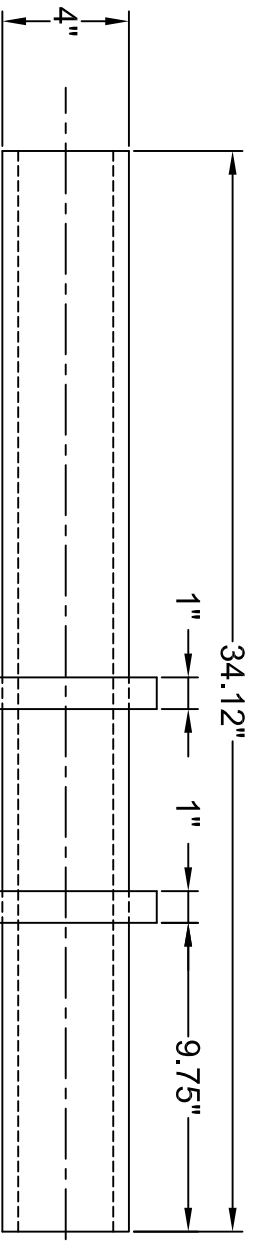
BUMPER SHALL EXTEND ACROSS THE ENTIRE FRONT OF TRUCK
 (NOTE: BUMPER EXTENDS AROUND PLOW CYLINDER)

PA DEPARTMENT OF TRANSPORTATION

FRONT PLOW HITCH ASSEMBLY

REVISIONS			
NO.	DATE	BY	
1	04-27-15	GAW	
2	12-19-16	JJB	
3	08-02-18	KBD	

FRONT PLOW HITCH ASSEMBLY	SCALE	EQN-50
DRAWN BY	WHM	
DATE	11-05-95	
CHKD BY	WHM	SHEET 3 OF 4



PAINT ENTIRE END FLUORESCENT ORANGE

PA DEPARTMENT OF TRANSPORTATION

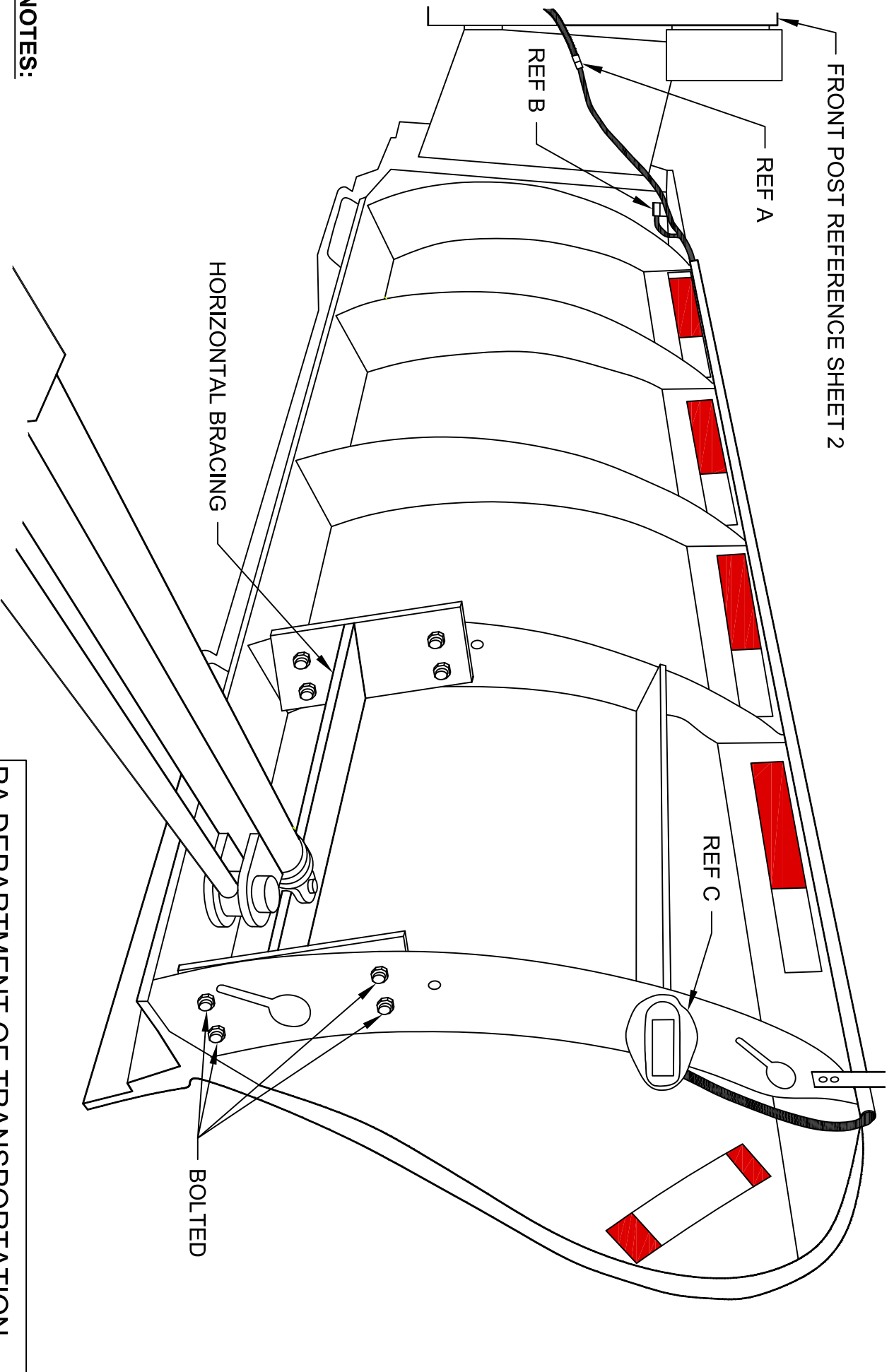
REVISIONS

NO.	DATE	BY	SCALE
1	04-27-15	GAW	
2	12-19-16	JJB	
3	08-02-18	KBD	

FRONT PLOW HITCH ASSEMBLY

NO.	DATE	BY	SCALE
1	04-27-15	GAW	
2	12-19-16	JJB	
3	08-02-18	KBD	

FRONT POST REFERENCE SHEET 2



NOTES:

- A. ALL WIRING CONNECTIONS SHALL BE SEALED AND WEATHER TIGHT. 2 PRONG DEUTSCHE CONNECTOR, MALE FROM WING AND FEMALE FROM VEHICLE.
- B. MERCURY SWITCH, SHALL BE COMUS # CB08-90.
- C. WING LIGHT, SHALL BE WHELEN MODEL # PAWINGWR.

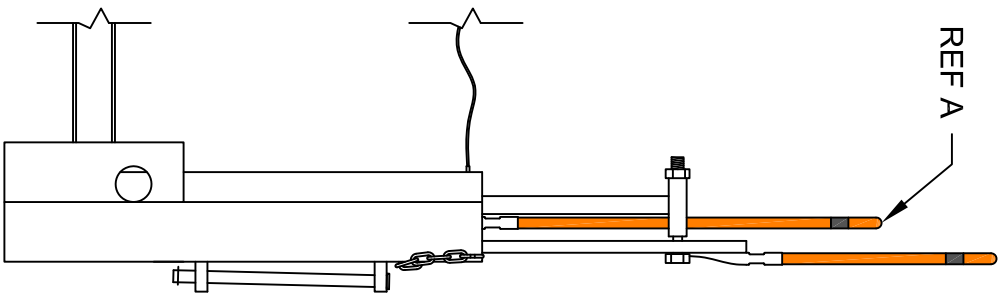
PA DEPARTMENT OF TRANSPORTATION

REVISIONS			DRAWN BY		
NO.	DATE	BY	DATE	SCALE	EQN-60A
1	12-19-16	JJB	07-15-15	N/A	EQN-60A
2	07-06-17	HMR			
3					

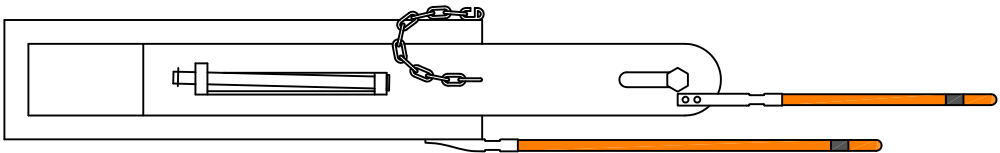
SNOWPLOW PATROL WING,
MOUNTING ARRANGEMENTS

NOTES:

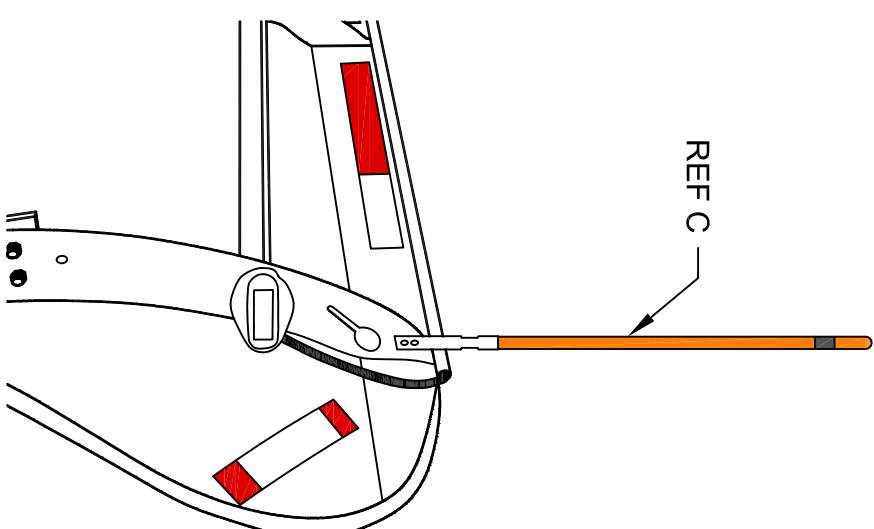
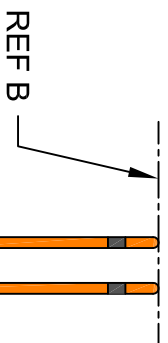
- ALL PLOW GUIDES SHALL BE $\frac{3}{4}$ " x 36" GALVANIZED STEEL CABLE HIGH VISIBILITY ORANGE, 2 BOLTS
- TWO PLOW GUIDES SHALL BE MOUNTED ON THE FRONT POST. A MINIMUM OF THE TOP 3 INCHES OF THE STATIONARY GUIDE SHALL BE VISIBLE FROM CAB.
 - BOTH PLOW GUIDES ON THE MAST SHALL BE LEVEL WHEN PLOW IS IN THE LOWERED POSITION AND RESTING ON A LEVEL SURFACE.
 - ONE PLOW GUIDE SHALL BE MOUNTED ON REAR OF WING PLOW.



RAISED POSITION



LOWERED POSITION

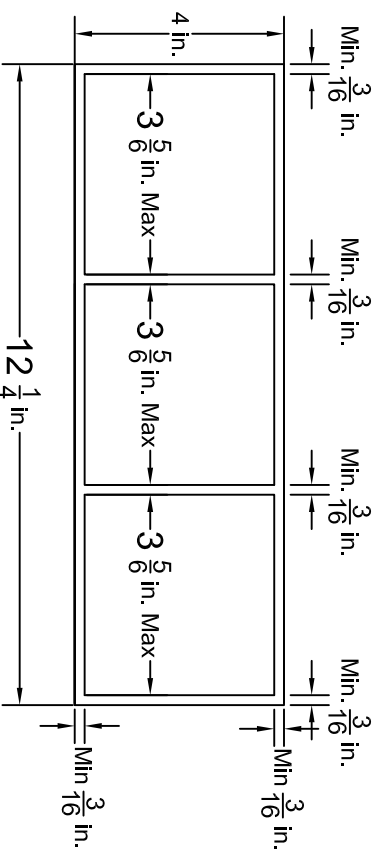
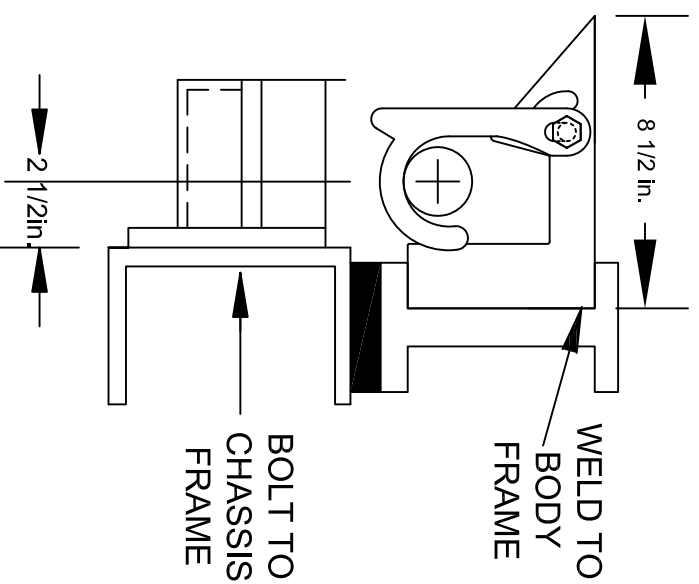
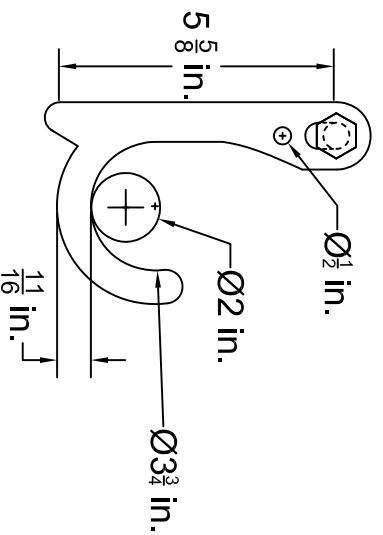
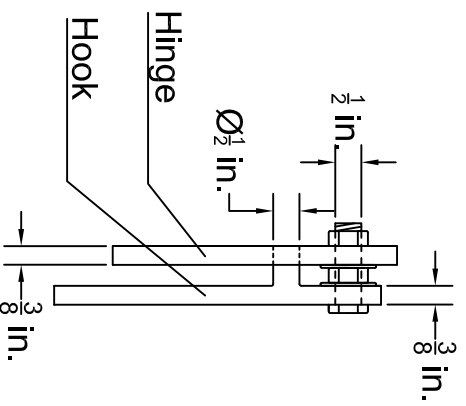
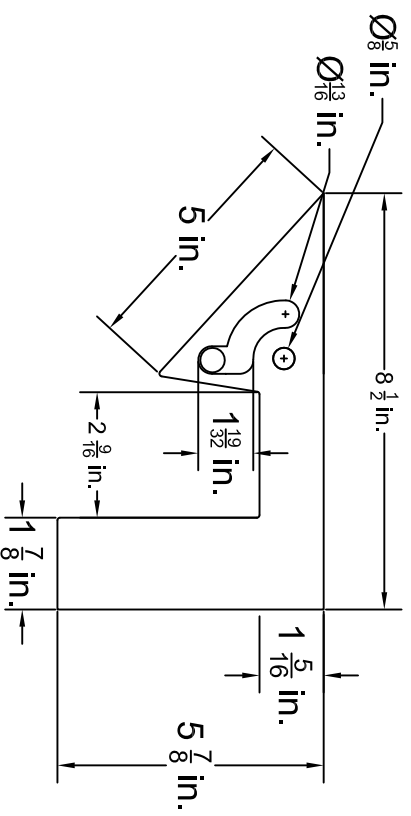


PA DEPARTMENT OF TRANSPORTATION

REVISIONS		NO.		DATE		BY	
1	07-03-14	ACT	JJB	07-03-14	ACT	JJB	HMR
2	12-19-16	JJB	RAR	12-19-16	JJB	RAR	HMR
3	07-06-17	HMR	RAR	07-06-17	HMR	RAR	HMR

**SNOWPLOW PATROL WING,
MOUNTING ARRANGEMENTS**

DRAWN BY	RAR	SCALE	N/A	EQN-60A
DATE	07-15-15	CHG'D BY		SHEET 2 OF 2



PA DEPARTMENT OF TRANSPORTATION

REVISIONS

BED PROP SYSTEM

NO.	DATE	BY	TOD	SCALE	EQN-62
1	7-13-09	TOD			
2	7-02-12	MJW		N/A	
3	6-05-14	ACT			

BILL OF MATERIAL

DESCRIPTION

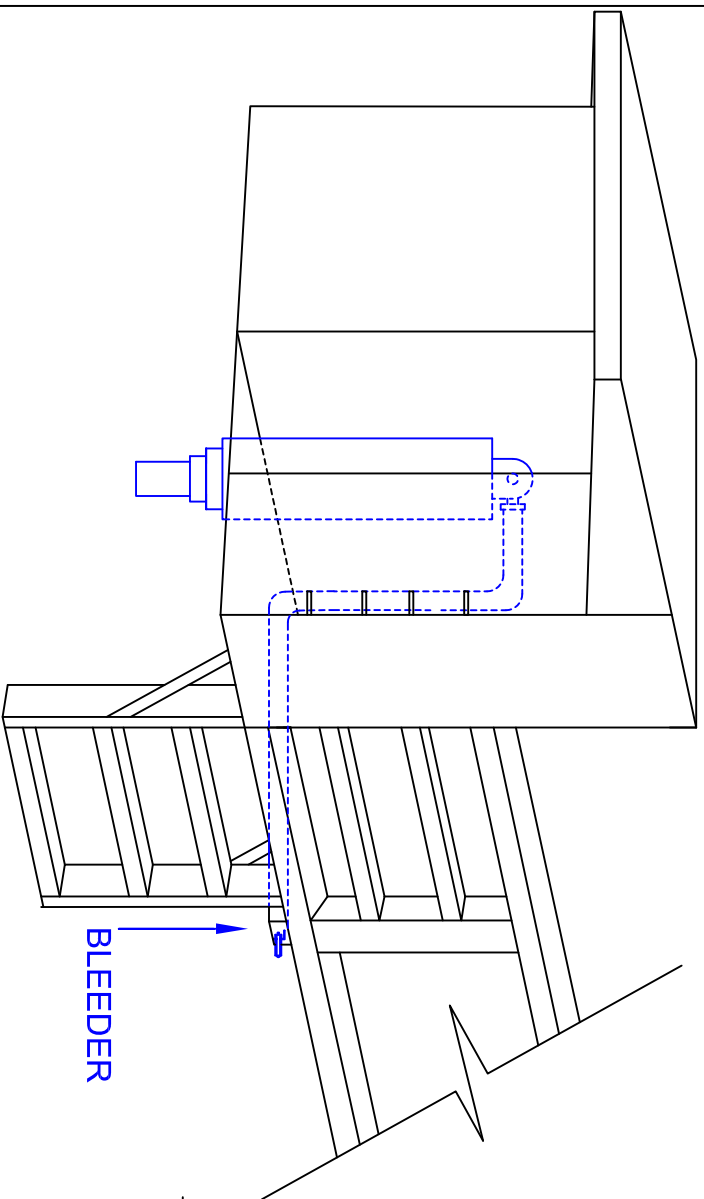
A.	PROP STOP- 12 1/4 in. X 4 in. MINIMUM 3/16 in. STEEL CONSTRUCTION
B.	HINGE- 6 in. X 6 in. MINIMUM 3/16 in. ALUMINUM CONSTRUCTION
C.	POST- 2in. X 27in. (SCH80) STEEL PIPE
D.	HOOK- 4 in. X 6 1/2 in. MINIMUM 3/16 in. STEEL CONSTRUCTION

NOTES

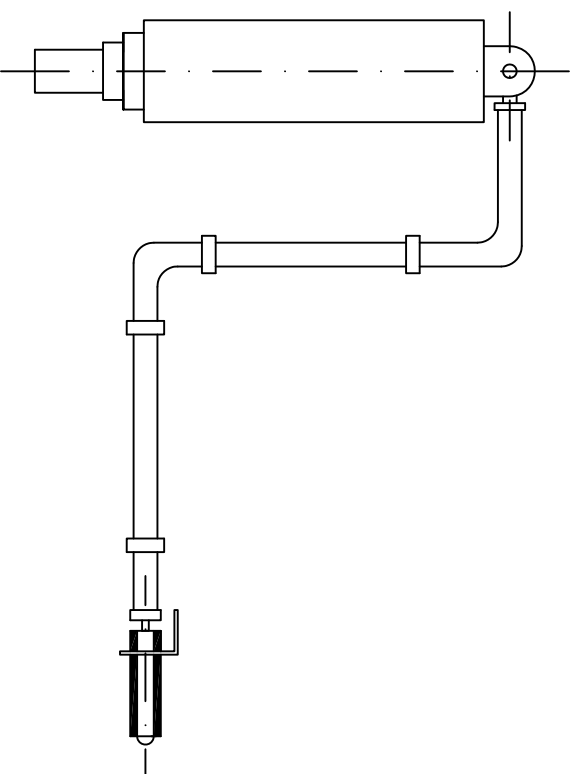
- TWO (2) SAFETY PROPS ARE REQUIRED PER VEHICLE.
- WHEN RELEASED FROM CRADLE, THE BED PROP SHALL BE FREE TO FREE-FALL. PROPS SHALL FALL INTO STOP "A" AS BED IS RAISED, UN-ASSISTED. HINGE "B" SHALL BE DESIGNED TO NOT ALLOW THE BED PROP TO TRAVEL PAST THE LAST POCKET ON THE PROP STOP "A".
- BOLTS SHALL BE GRADE 8 WITH GRADE 8 LOCK NUTS.
- ALL EDGES SHALL BE SMOOTH.

PA DEPARTMENT OF TRANSPORTATION

REVISIONS		BED PROP SYSTEM DUMP TRUCK	
NO.	DATE	BY	DRAWN BY
1	7-13-09	TOD	WHM
2	7-02-12	MJW	SCALE N/A
3	6-05-14	ACT	DATE 11-06-89



LINE SHALL BE SECURED WITH EXTRUDED CUSHION LOOP CLAMPS EVERY 12 inches (min) UTILIZING STUDS OR BOLTS.

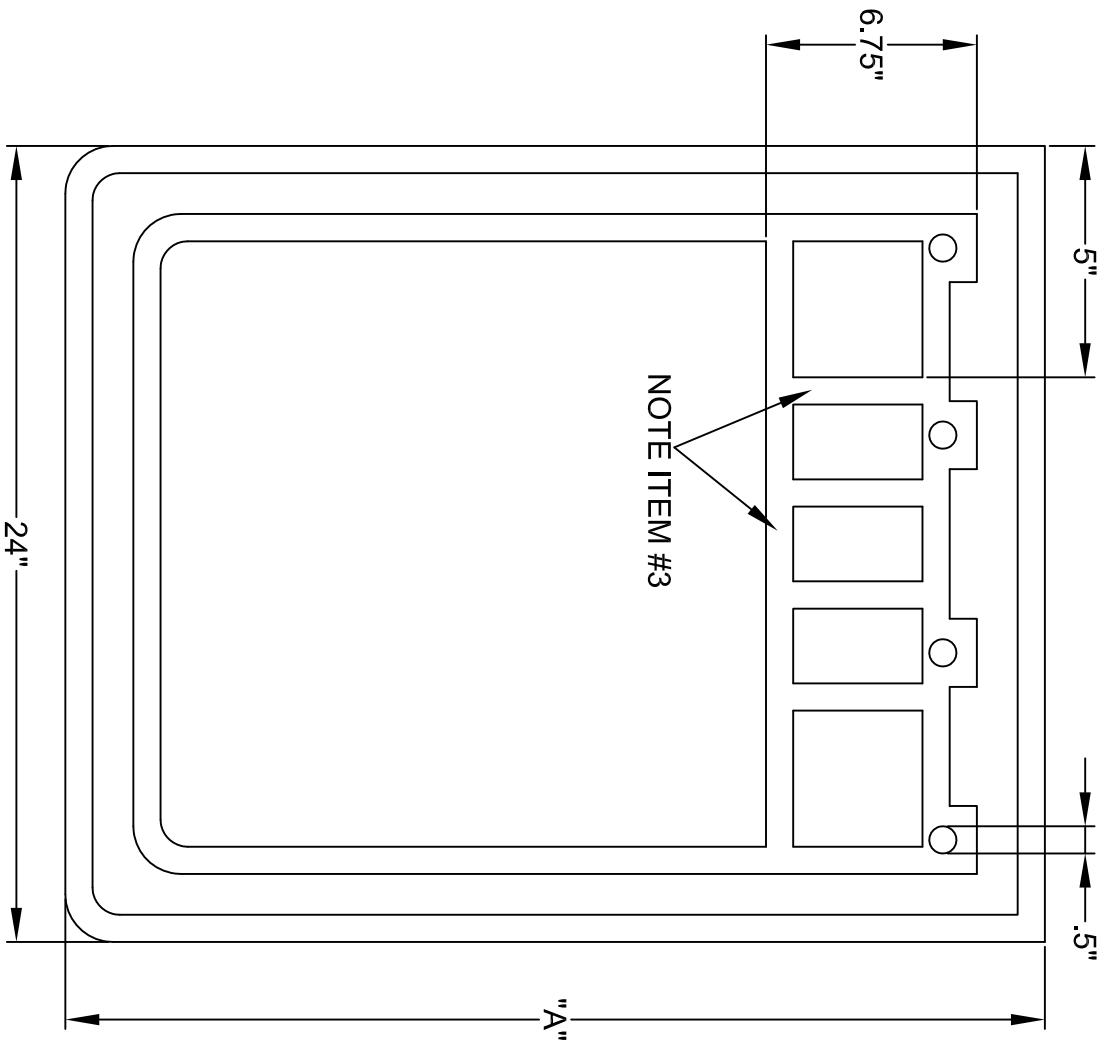


PA DEPARTMENT OF TRANSPORTATION

DUMP TRUCK HOIST CYLINDER BLEEDER

REVISIONS			
NO.	DATE	BY	
1	10-24-06	CJW	
2	7-13-09	TOD	
3	7-02-12	MJW	

DRAWN BY	DLW	SCALE	N/A	EQN-63
DATE	08-14-97	CHK'D BY	WHM	SHEET 1 OF 1



SAFETY

- NOTE:**
1. DIMENSION "A" DEPENDANT ON REQUISITION.
 2. MUD FLAPS SHALL BE "UNMARKED"

PA DEPARTMENT OF TRANSPORTATION

REVISIONS			DRAWN BY		
NO	DATE	BY	DATE	SCALE	
1	05-28-02	DWG	11-18-87	N/A	EQN-66
2	11-28-06	CJW			
3	07-20-09	TOD			

SPLASH GUARDS-RUBBER TRAILER & TRUCK

FENDERS AND FLAPS: VEHICLES SPECIFIED UNDER THIS SUBCHAPTER SHALL BE EQUIPPED WITH FENDERS WHICH PROVIDE AT LEAST AS MUCH COVERAGE OF THE WHEEL AS THE ORIGINAL EQUIPMENT. ALL WHEELS SHALL BE SUFFICIENTLY COVERED WITH FENDERS OR FLAPS SO AS TO PREVENT LOOSE OBJECTS, RAIN, SNOW, AND THE LIKE FROM BEING THROWN ABOUT IN A MANNER WHICH MAY INTERFERE WITH OTHER PERSONS USING THE HIGHWAY.

REAR WHEEL SHIELDS: VEHICLE SPECIFIED UNDER THIS SUBCHAPTER EXCEPT TRUCK-TRACTOR WHILE TOWING A TRAILER SHALL BE CONSTRUCTED OR EQUIPPED AS FAR AS TO BAR WATER OR OTHER ROAD SURFACES THROWN FROM REAR WHEELS OF SUCH VEHICLE OR COMBINATION AT TANGENTS EXCEEDING 22.5 DEGREES, MEASURED FROM ROAD SURFACE FROM PASSING IN STRAIGHT LINE TO THE REAR OF SUCH VEHICLE. SEE 75 PA C554533 (RELATING TO REAR WHEEL SHIELDS)

AREA 6.75"x24" ACROSS THE TOP IS ACCEPTABLE IN SOLID VIS RIBS PROVIDED IT MEASURES .225" IN THICKNESS

THE BODY OF SPLASH GUARD SHALL BE A MINIMUM OF .09375" THE TRIM AREA SHALL BE $\frac{3}{8}$ " MINIMUM THICKNESS. THE BODY AREA IS THE AREA WITHIN THE OUTSIDE DIMENSIONS OF 24"x36" TOLERANCES +/- .250" THE WEIGHT OF THE SPLASH GUARD SHALL BE 6LBS FOR 24"x30" AND 7.5lbs x 24" x 36" MINIMUM.

NOTE:

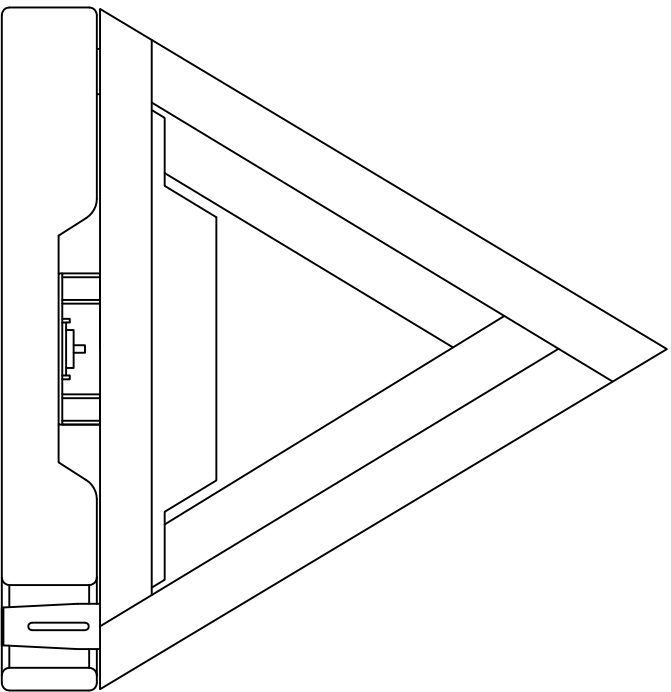
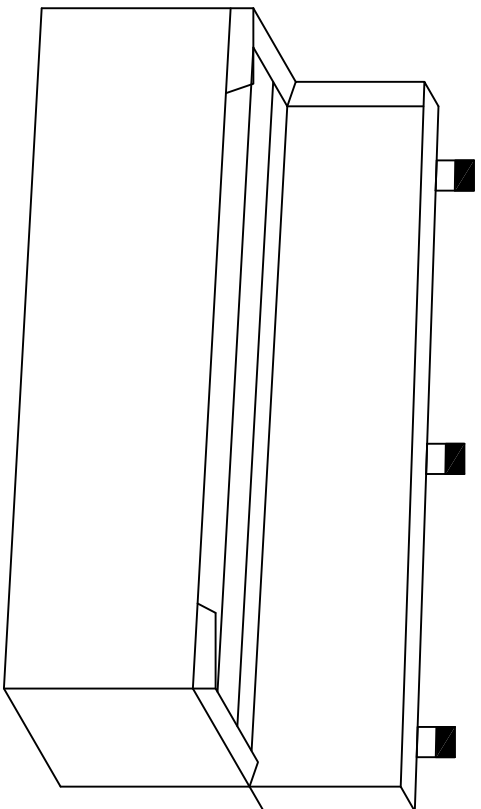
1. MATERIAL: MOLDED NATURAL OR SYNTHETIC BLACK TIRE CHORD IMPREGNATED RUBBER. OIL AND SALT RESISTANT.
2. ANTI-SAIL NOT ACCEPTABLE.
3. MANUFACTURERS STANDARD SIZE ACCEPTABLE IF ALL MINIMUM THICKNESS, DIMENSIONS, AND WEIGHT SPECIFICATIONS ARE MET.
4. AS PER PA VEHICLES EQUIPMENT AND INSPECTION REGULATIONS, SECTION 175-108.
5. DIMENSION "A" WILL BE 30" OF 36" AS NECESSARY, WHEN INSTALLED TO MEET PA MOTOR VEHICLE CODE OR AS SPECIFIED ON THE CONTRACT.
6. MUD FLAPS SHALL BE "UNMARKED"

PA DEPARTMENT OF TRANSPORTATION

REVISIONS		DRAWN BY		SCALE	
NO	DATE	BY			
1	05-28-02	DWG	S.T.	N/A	EQN-66
2	11-28-06	CJW	S.T.	N/A	EQN-66
3	07-20-09	TOD	S.T.	RED	SHEET 2 OF 2

SPLASH GUARDS-RUBBER TRAILER & TRUCK

JAMES KING & CO.
 TRIANGLE PART #1005
 OR APPROVED EQUAL

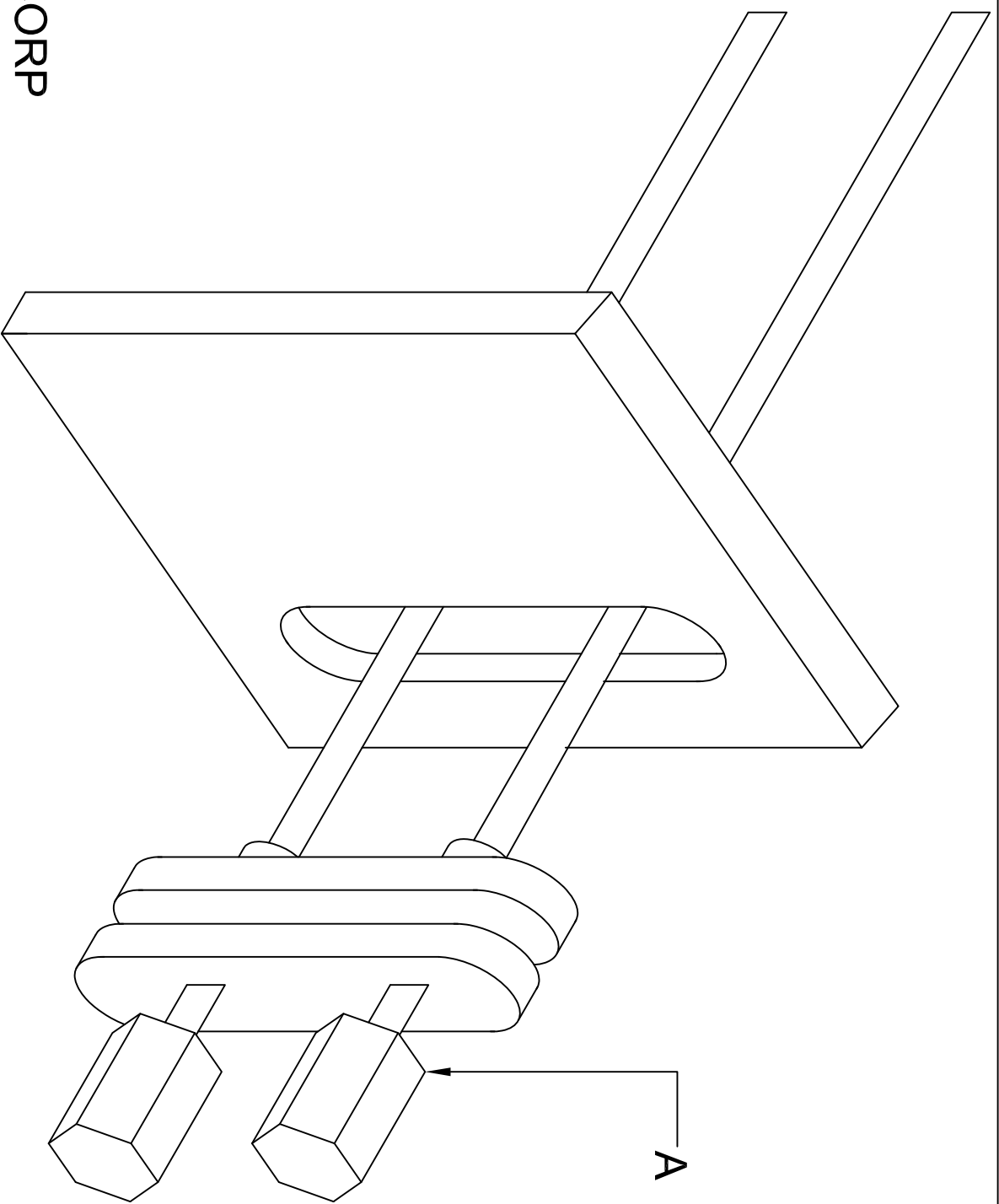


PA DEPARTMENT OF TRANSPORTATION

REVISIONS			DRAWN BY		
NO.	DATE	BY	SCALE	DATE	SHEET
1	05-31-07	KNH	W/HM	04-23-92	1 OF 1
2	07-20-09	TOD	N/A		
3	07-13-17	HMR			

**TRIANGLE STORAGE BOX AND
 BRACKET**

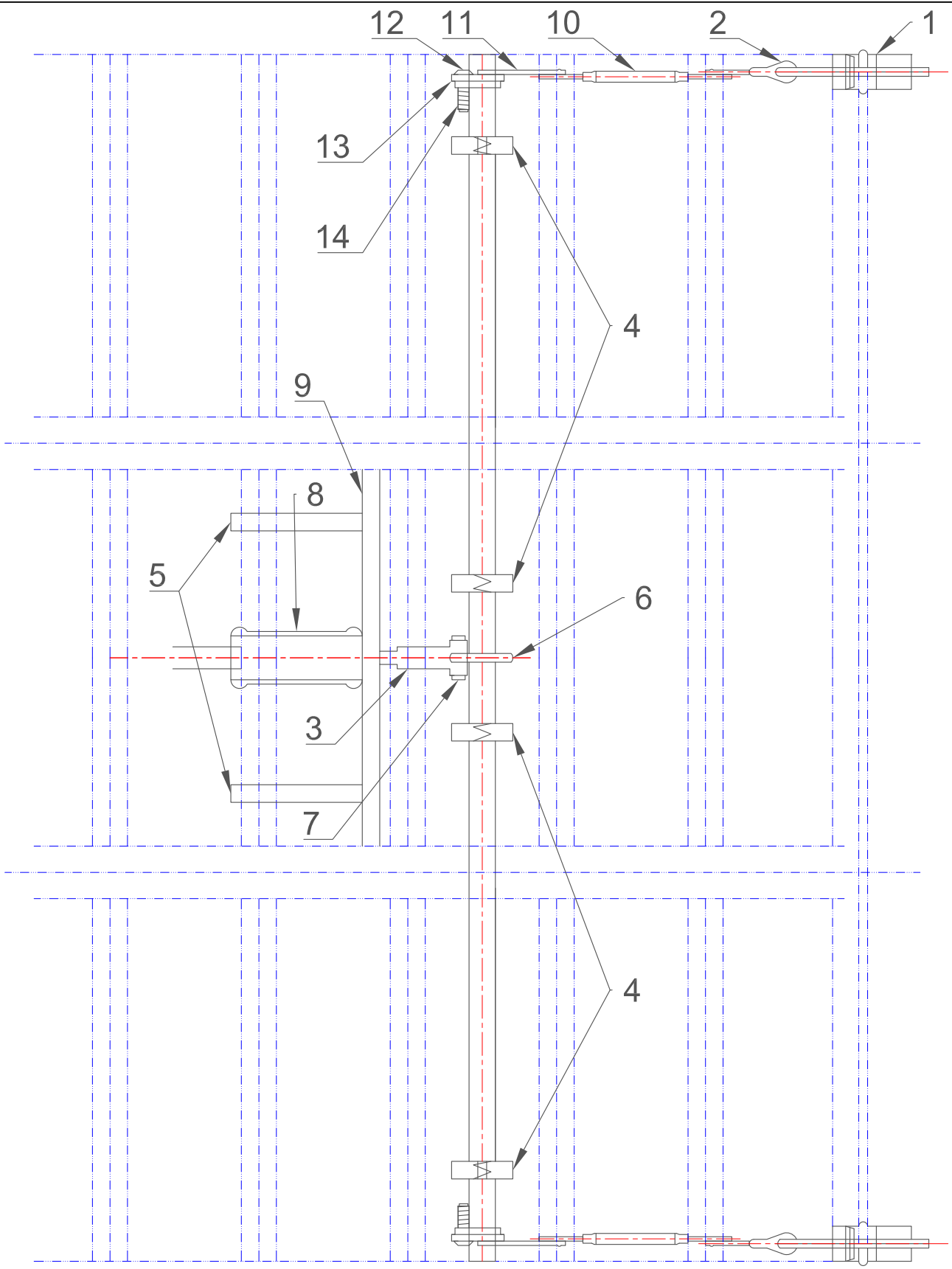
EQN-66A



A.
 PANA PACIFIC CORP
 541 DIVISION STREET
 CAMPBELL, CALIFORNIA 95008
 408-374-7900

PART #531 277 C1

PA DEPARTMENT OF TRANSPORTATION			C.B. RADIO CONNECTIONS		
REVISIONS					
NO.	DATE	BY			
1	08-15-90	WHM			
2	07-02-97	DLW			
3	10-27-06	CJW			
		DRAWN BY	WHM	SCALE	EQN-78
		DATE	08-15-90	CHECK BY	RED
		SHEET 1 OF 1			



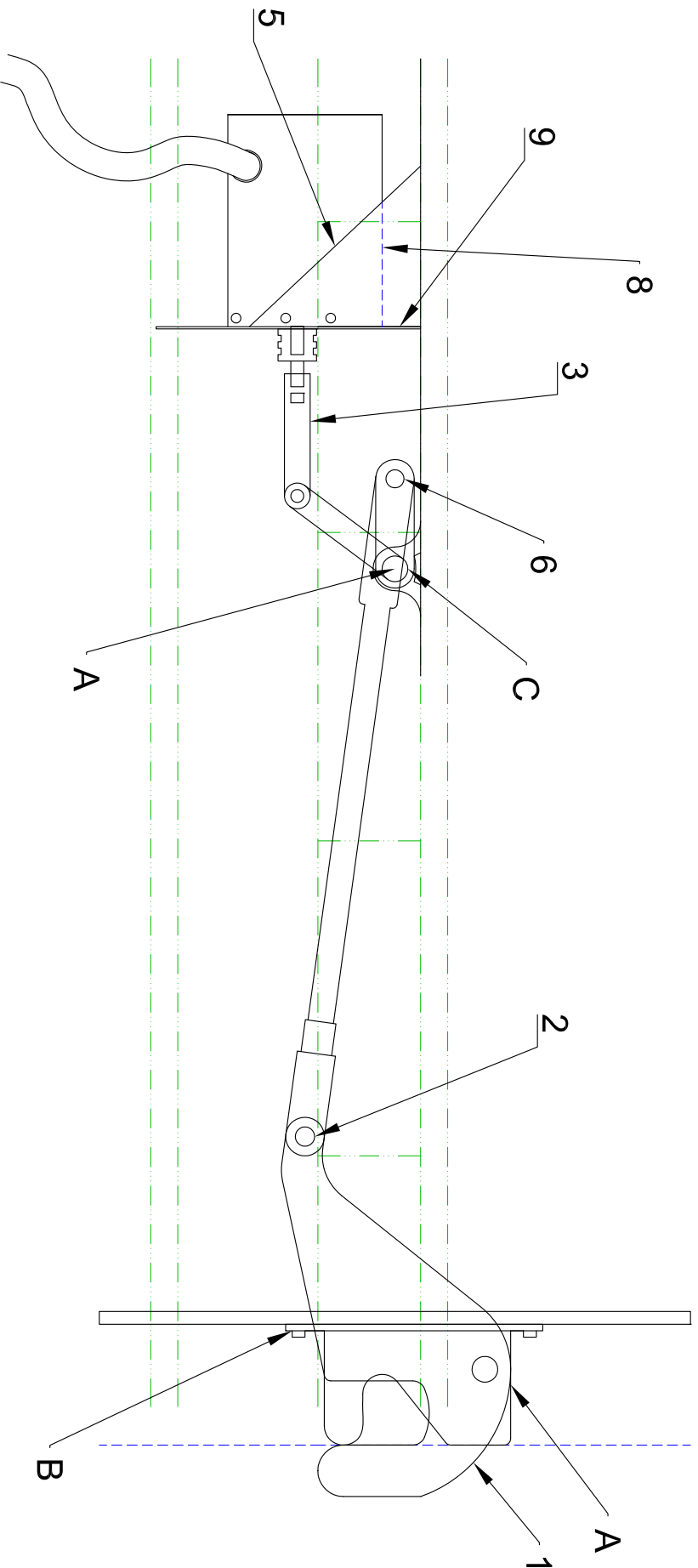
PA DEPARTMENT OF TRANSPORTATION

REVISIONS

NO.	DATE	BY
1	10-06-97	DLW
2	06-03-02	DWG
3	07-13-17	JFM

AIR TAILGATE, HARDWARE
(DUMP TRUCK)

DRAWN BY	WHM	SCALE	3:1	EQN-78A
DATE	08-04-95	CHK'D BY	RED	SHEET 1 OF 3



AIR HOSE SHALL BE OF PROPER LENGTH AND CLAMPED SUFFICIENTLY TO ELIMINATE CHAFING. AIR LINE SHALL BE COVERED IN PLASTIC LOOM WHERE IT EXTENDS THROUGH THE BULKHEAD FITTING/S.

NOTES: A - DRILLED AND TAPED WITH ZERK FITTING OR NYLON BUSHING BUYERS TEL. (440) 974-8888

B - TAILGATE LATCHES MUST BE BOLTED IN, WELDED NOT ACCEPTABLE.

C - MUST BE ABLE TO BE ADJUSTED OVER CENTER INTO A LOCKING POSITION.

PA DEPARTMENT OF TRANSPORTATION

**AIR TAILGATE, HARDWARE
(DUMP TRUCK)**

REVISIONS			DRAWN BY		SCALE	
NO.	DATE	BY	DATE	SCALE	DATE	BY
1	06-03-02	DWG	08-04-95	2:1	08-04-95	RED
2	05-30-13	JFM				
3	07-13-17	HMR				

EQN-78A

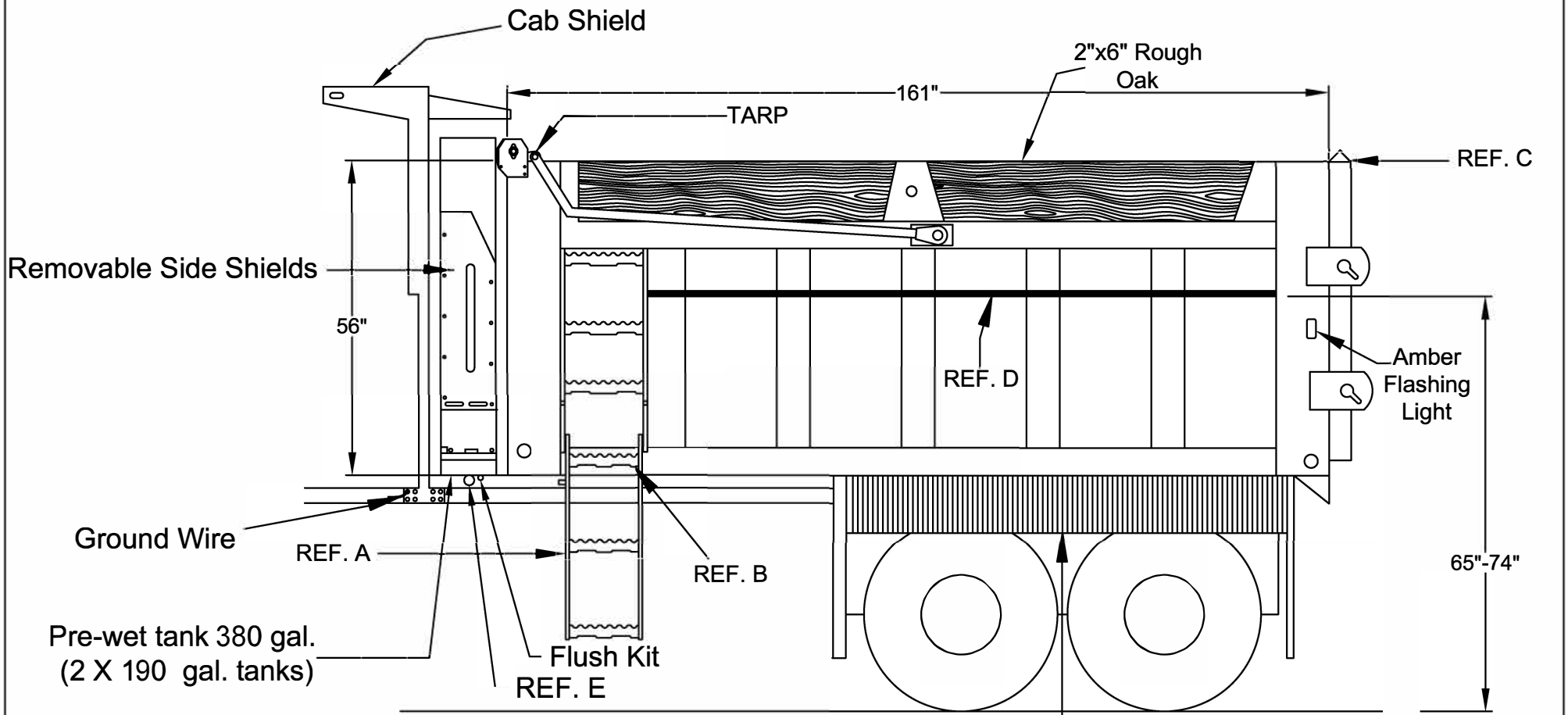
SHEET 2 OF 3

BILL OF MATERIAL (PARTIAL LIST)

<u>ITEM</u>	<u>QTY</u>	<u>DESCRIPTION</u>
1	2	HEAVY HARDWARE ASSEMBLY (LATCHING)
2	2	CLEVIS (BUYERS #2708-6C/ .50 in.)
3	1	AIR CYLINDER CLEVIS
4	4	BEARING BLOCK ASSEMBLY (WITH ZERK FITTING)
5	2	GUSSET
6	1	CAM / LINKAGE
7	1	YOKE PIN (BUYERS #B2708-1/2-8A/ .75in.)
8	1	AIR CYLINDER (AIR OVER SPRING OR AIR OVER AIR)
9	1	CYLINDER SUPPORT PLATE
10	2	TURNBUCKLE .625 in. x 6 in.
11	2	REAR LENGTH BAR
12	2	BOLT .625 IN. x 2 in.
13	2	FLAT WASHER .625 in.
14	3	NUT .625 in. NYLON LOCK

PA DEPARTMENT OF TRANSPORTATION

REVISIONS			AIR TAILGATE, HARDWARE (DUMP TRUCK)		
NO.	DATE	BY	DRAWN BY	SCALE	
1	10-06-97	DLW			
2	06-03-02	DWG	WHM	N/A	EQN-78A
3	7-13-17	JFM	08-04-95	RED	SHEET 3 OF 3



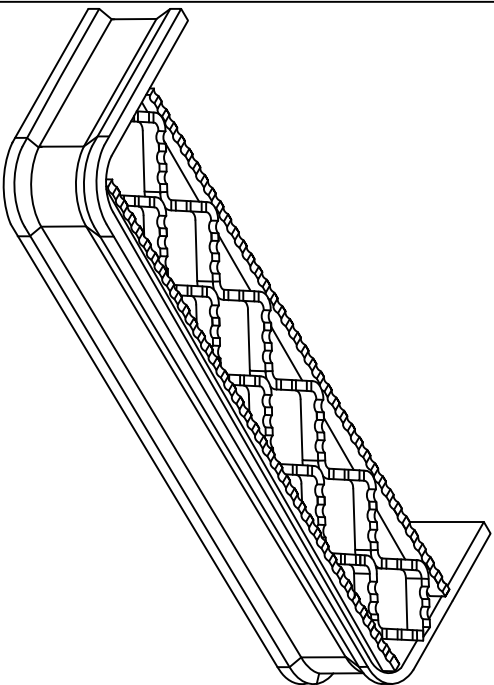
- NOTES:**
- A. LADDER SHALL BE ALUMINUM. LADDER SHALL BE WELDED, MOUNTED ON CENTER BETWEEN THE REAR OF THE DRIVERS SIDE FRONT CORNER POST AND THE FRONT OF THE FIRST VERTICAL SIDE BRACE.
 - B. STEPS SHALL BE FULL WIDTH BETWEEN VERTICAL SIDE BRACES AND FLUSH WITH OUTSIDE EDGE OF BRACES, 2" WIDTH X 1" HIGH X 1/4" THICKNESS WITH SERRATED EDGES OR EQUAL.
 - C. INVERTED 1 1/2 INCH ANGLE ALUMINUM..
 - D. 3/4 INCH ALUMINUM ROUND STOCK FOR TARP TIE DOWN.
 - E. FILL LEVER 1" (MIN.) FROM TANK FRAME AND BYPASS 1' (MIN.) FROM TANK FRAME OR AT A 30 DEGREE ANGLE DOWN.

PRE-WET / FILL DRAIN / FLUSH KIT LOCATED ON THE OUTSIDE OF FRAME RAIL .

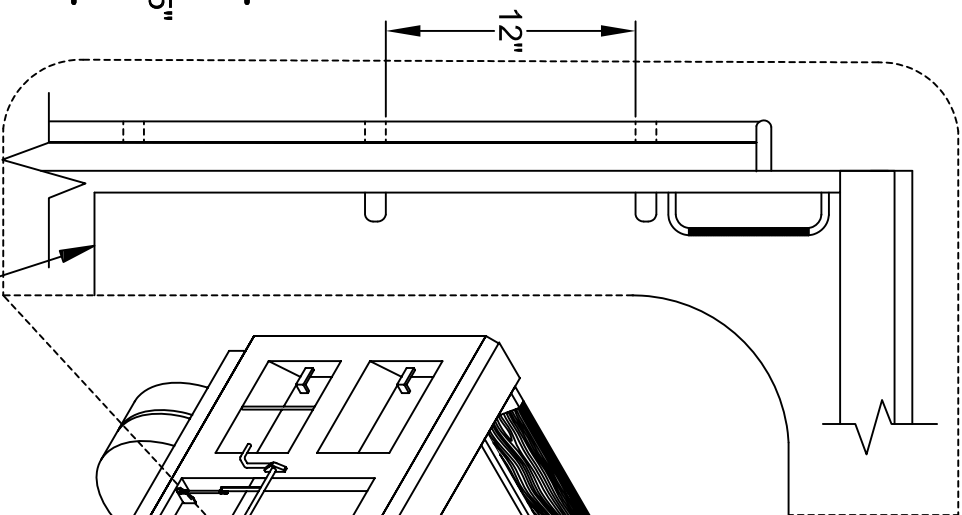
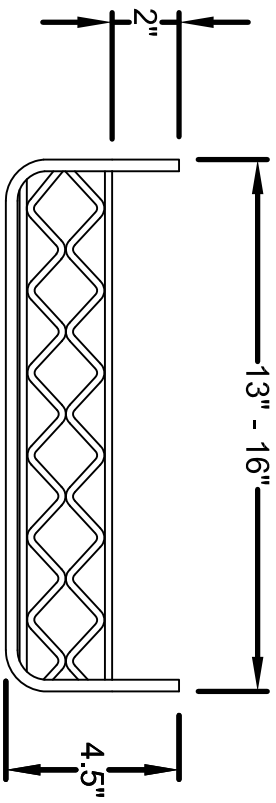
PA DEPARTMENT OF TRANSPORTATION					
REVISIONS			TYPE IV DUMP BODY		
NO.	DATE	BY			
1	12-20-16	JJB			
2	08-02-18	KBD	DRAWN BY	DLW	Combined With EQN-81Y & 557
3	08-08-19	KBD	DATE	10-08-97	CHK'D BY Scale
			N/A	N/A	EQN-79A
			SHEET 1 OF 9		

Inner Step

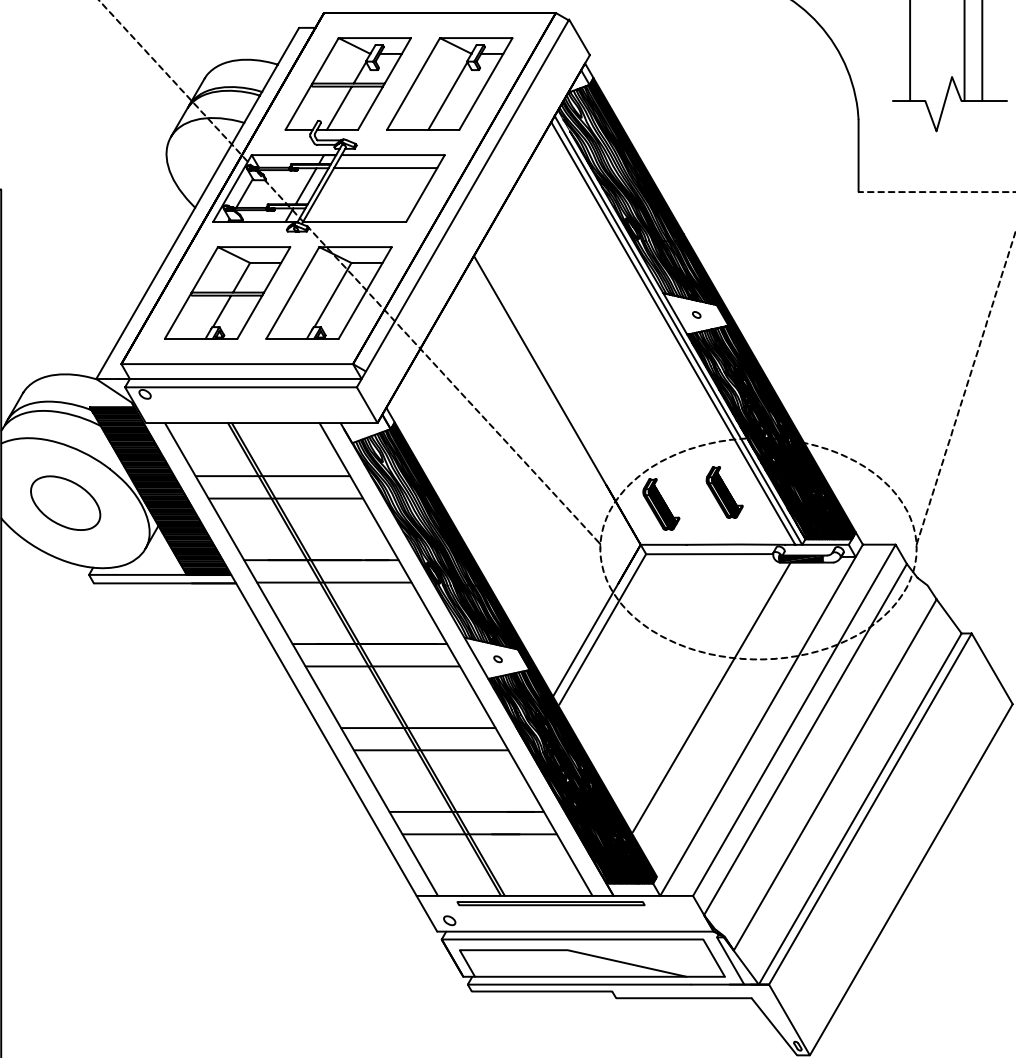
Single & Tandem Axle



Inner Step Top View



Inner Body Wall



PA DEPARTMENT OF TRANSPORTATION

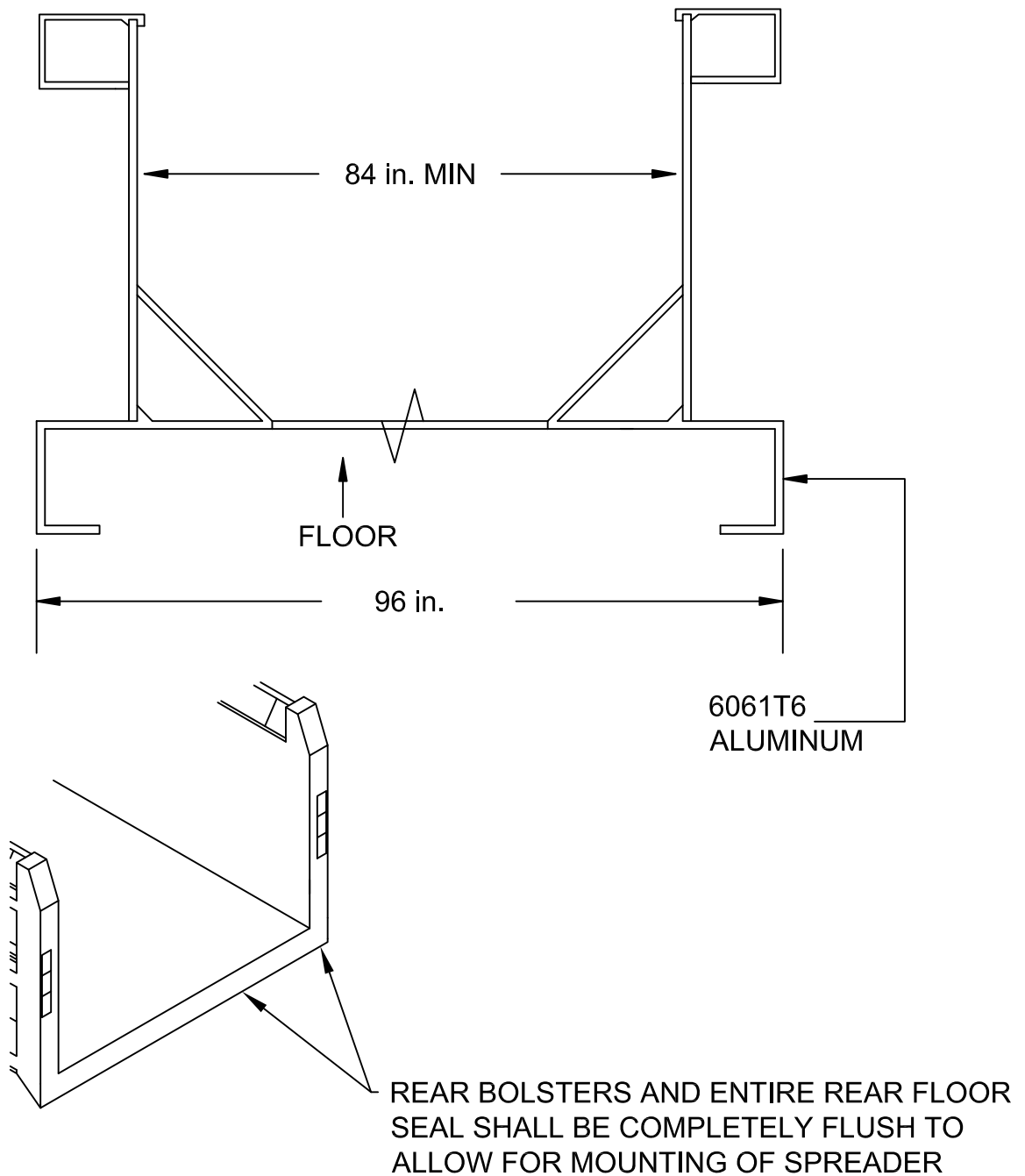
REVISIONS

NO.	DATE	BY
1	08-02-18	KBD
2	08-08-19	KBD
3		

AXLE DUMP BODY INSIDE STEPS

NO.	DATE	BY	DATE	BY
1	08-02-18	KBD	07-02-12	N/A
2	08-08-19	KBD		
3				

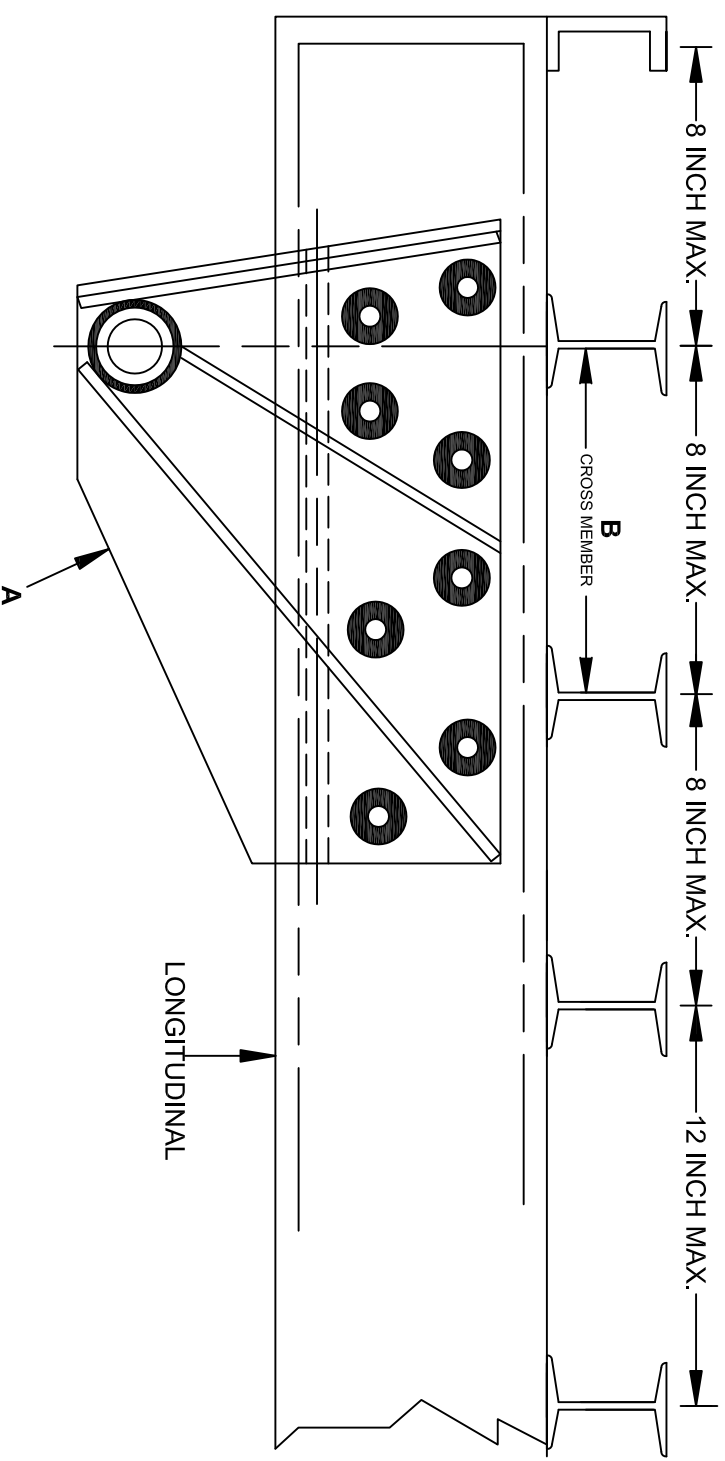
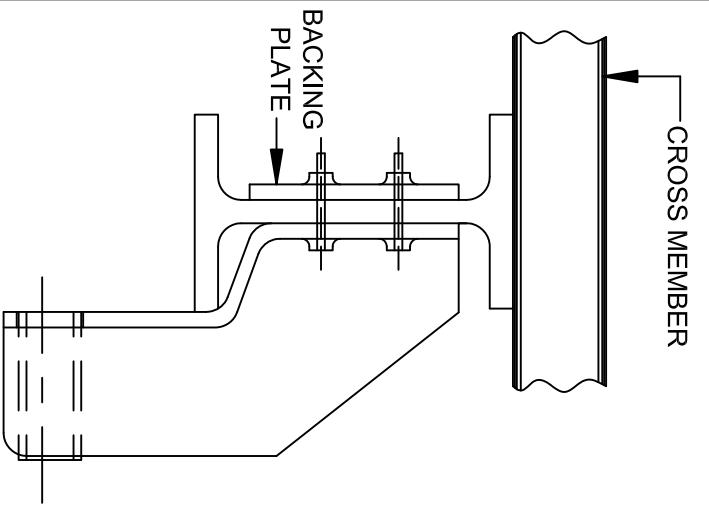
PA DEPARTMENT OF TRANSPORTATION	DRIVEN BY	MJW	Checked by	
	DRAWN BY	KBD	EQN-79A	
	DATE	07-02-12	SHEET	2 OF 9



NOTES

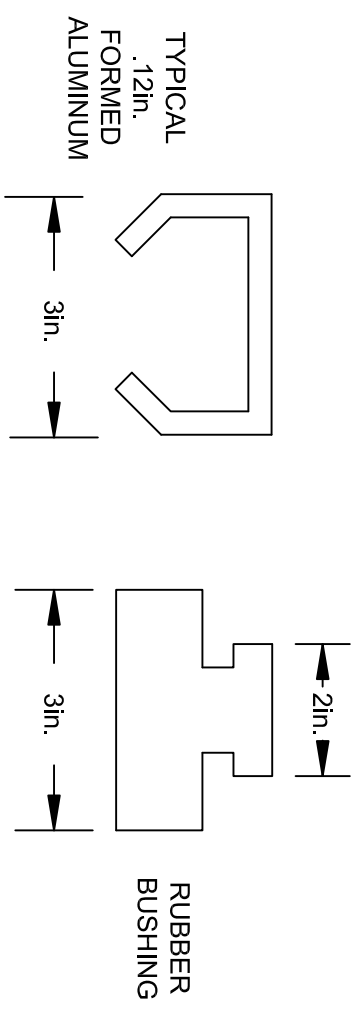
1. ONE-PIECE BODY FLOOR SHALL BE .375 in. MINIMUM THICK ABRASION-RESISTANT ALUMINUM OF GRADE 5454H 34.
2. THE MATERIALS HAULED IN THESE VEHICLES WILL BE SALT, ABRASIVE AGGREGATE, WET MUD, ETC.
3. OVERALL WIDTH OF BODY SHALL NOT EXCEED 96 INCHES.

PA DEPARTMENT OF TRANSPORTATION					
REVISIONS			TYPE IV DUMP BODY		
NO.	DATE	BY			
1	12-20-16	JJB			
2	08-02-18	KBD	DRAWN BY	DLW	Combined With EQN-81Y & 557
3	08-08-19	KBD	DATE	11-05-97	EQN-79A
			CHK'D BY	N/A	Scale N/A
			SHEET 3 OF 9		



NOTES:

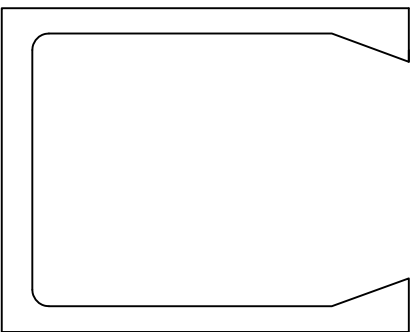
- A. BED MOUNTING BRACKETS SHALL BE A WEB STYLE DESIGN AND SPAN ACCROSS TWO CROSS MEMBERS. THE WEB MOUNT SHALL BE DESIGNED FOR SEVERE DUTY SERVICE. THE BOLTS (8 MINIMUM) SHALL BE OF GRADE 8 MINIMUM WITH SELF-LOCKING GRADE 8 NUTS.
 - B. THE LAST FOUR CROSS-MEMBERS SHALL BE PLACED ON 8 INCH MAXIMUM CENTERS, WITH THE BALANCE ON 12 INCH MAXIMUM CENTERS.
- THE BODY SHALL BE SHOCK MOUNTED TO AVOID STRESS ON ROUGH ROADS WHEN EMPTY.
 - "FULL-LENGTH" BODY TO FRAME RUBBER MOUNTING SYSTEM.
 - THE REAR PIN HINGE SHALL BE A MINIMUM OF 2 INCH DIAMETER, AND SHALL HAVE A GREASABLE HINGE BUSHING 1/2 INCH WALL. THERE SHALL BE MYLAR OR APPROVED EQUAL BETWEEN METAL BRACKETS AND ALUMINUM LONGTUDINAL RAILS



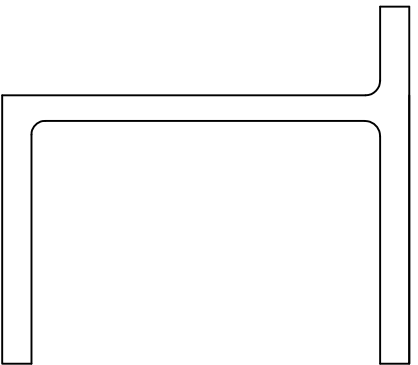
PA DEPARTMENT OF TRANSPORTATION

TYPE IV DUMP BODY

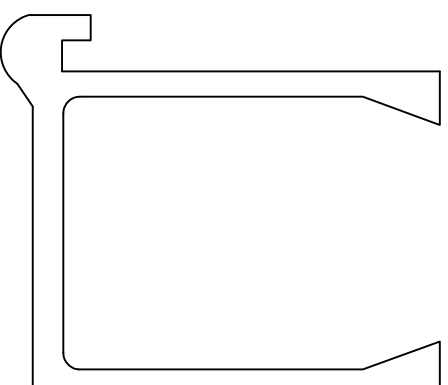
REVISIONS			DRAWN BY		
NO.	DATE	BY	DLW	DATE	BY
1	12-20-16	JJB	DLW	11-05-97	KBD
2	08-02-18	KBD	DLW	N/A	N/A
3	08-08-19	KBD	DLW	N/A	N/A



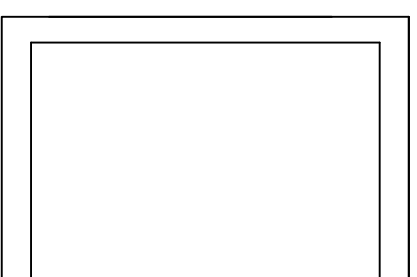
APPROVED HOIST CYLINDER
CHANNEL EXTRUSIONS



APPROVED REAR
CROSSMEMBER EXTRUSIONS



APPROVED FRONT CROSS
MEMBER EXTRUSION



PA DEPARTMENT OF TRANSPORTATION

REVISIONS

NO. DATE BY

1 04-27-15 GAW

2 08-02-18 KBD

3 08-08-19 KBD

TYPE IV DUMP BODY

DRAWN BY

DATE

07-13-09

TOD

DATE

07-13-09

Checked With

EQN-617 & 557

CHKO BY

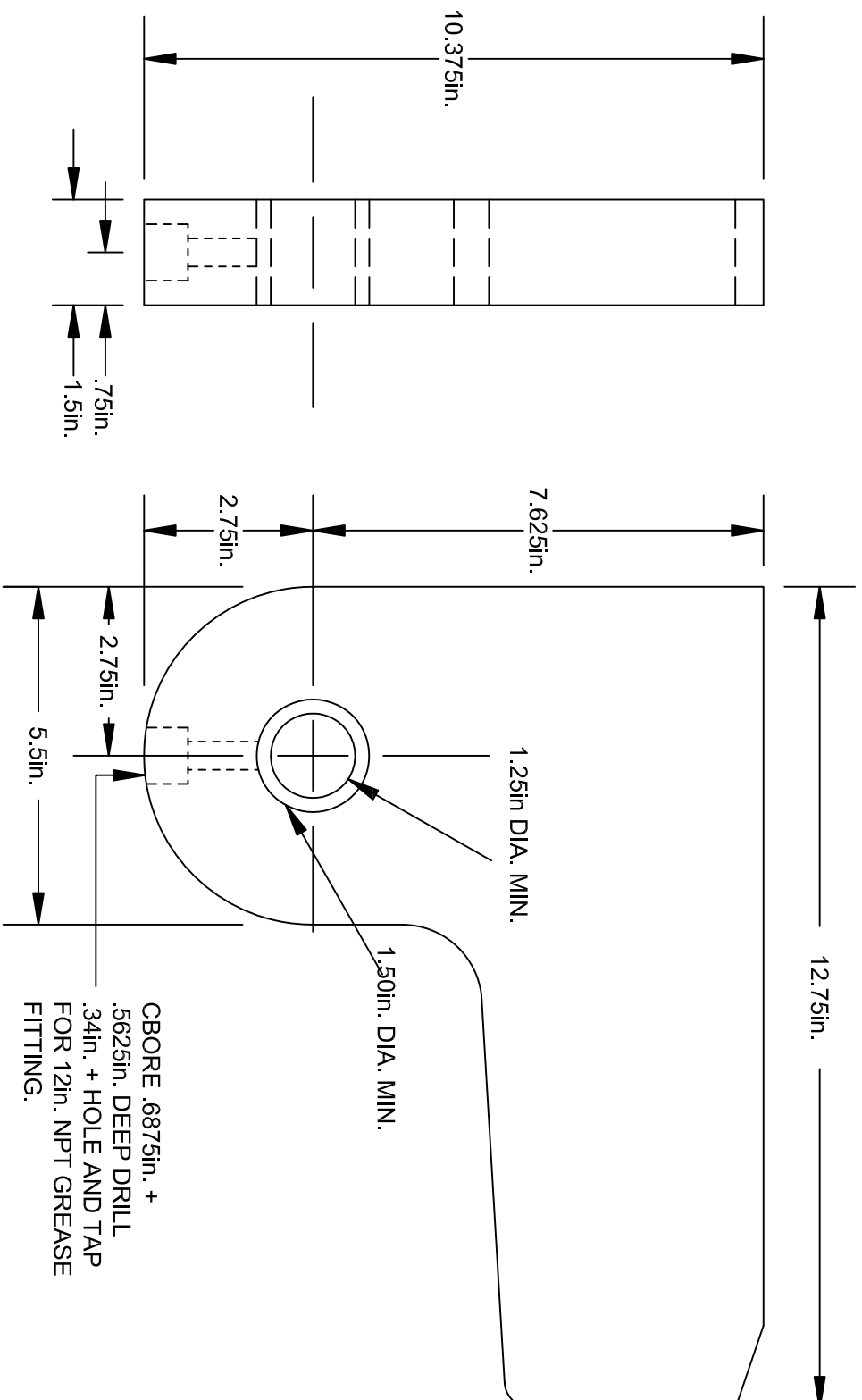
Scale

N/A

N/A

EQN-79A

SHEET 5 OF 9



PA DEPARTMENT OF TRANSPORTATION

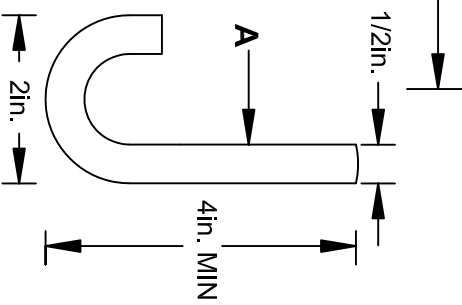
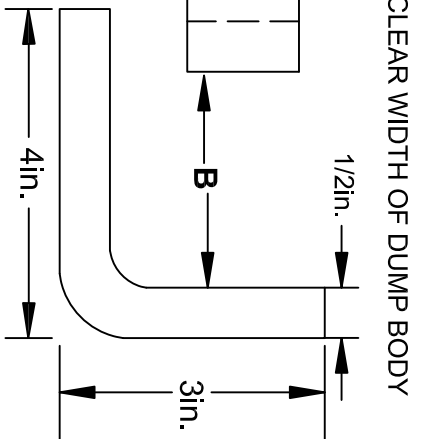
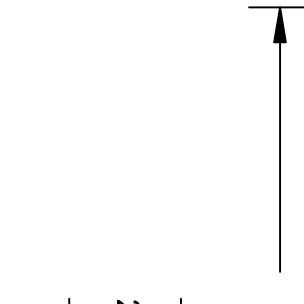
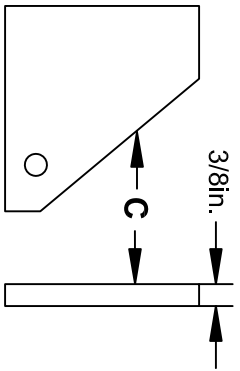
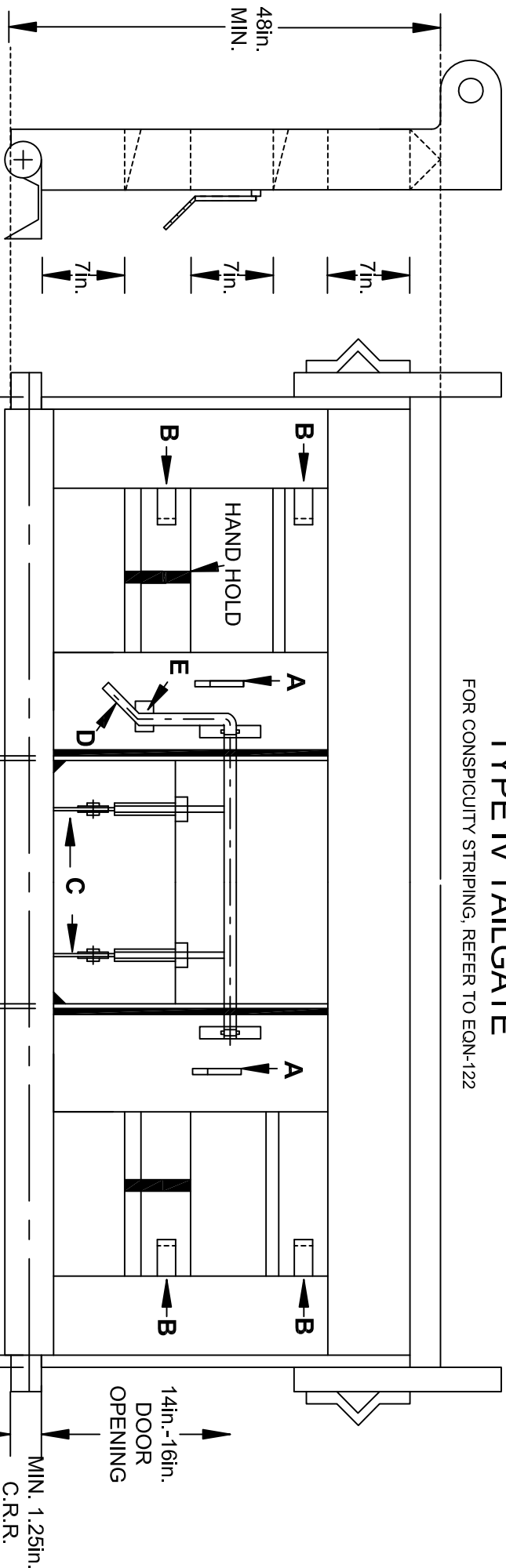
REVISIONS

TYPE IV DUMP BODY

NO.	DATE	BY	DRAWN BY	DATE	CHK'D BY	Scale	Combined Title
1	04-27-15	GAW	DLW	11-05-97	N/A	N/A	EQN-79A
2	08-02-18	KBD					
3	08-08-19	KBD					

TYPE IV TAILGATE

FOR CONSPICUITY STRIPING, REFER TO EQN-122



NOTES:

- A. THERE SHALL BE 2 "J" HOOKS PER TAILGATE AND SHALL BE FULLY WELDED AS CHAIN HOLDERS.
- B. THERE SHALL BE 4 TAILGATE CHAIN BRACKETS FULLY WELDED TO THE TAILGATE.
- C. THERE SHALL BE 2 EARS MADE OF 3/8 INCH 304 STAINLESS STEEL FULLY WELDED TO THE MATERIAL CHUTE DOOR.
- D. 1in. DIA. H.R.R. LIFT HANDLE WITH GRIP COVER. SUFFICIENT CLEARANCE AS TO NOT HIT KNUCKLES OF HAND WHEN APPLYING.
- E. STRIKE PLATE SHALL BE SUFFICIENT DIMENSION TO COVER HANDLE STRIKING AREA, MINIMUM 3/16 INCH MATERIAL THICKNESS.
- HORIZONTAL CROSS-MEMBER ABOVE THE DOOR SHALL BE ONE CONTINUOUS RUN ACROSS TAILGATE.
- 1/4 INCH SLIDING GATE TYPE 304 STAINLESS STEEL.

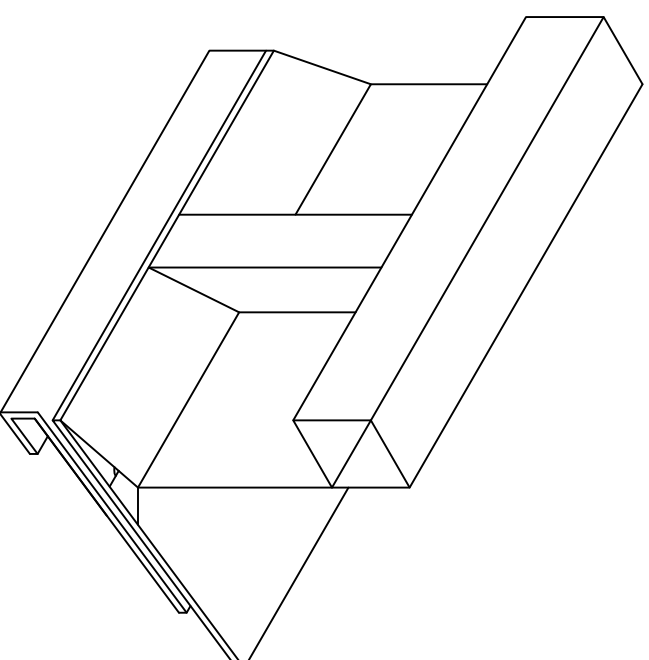
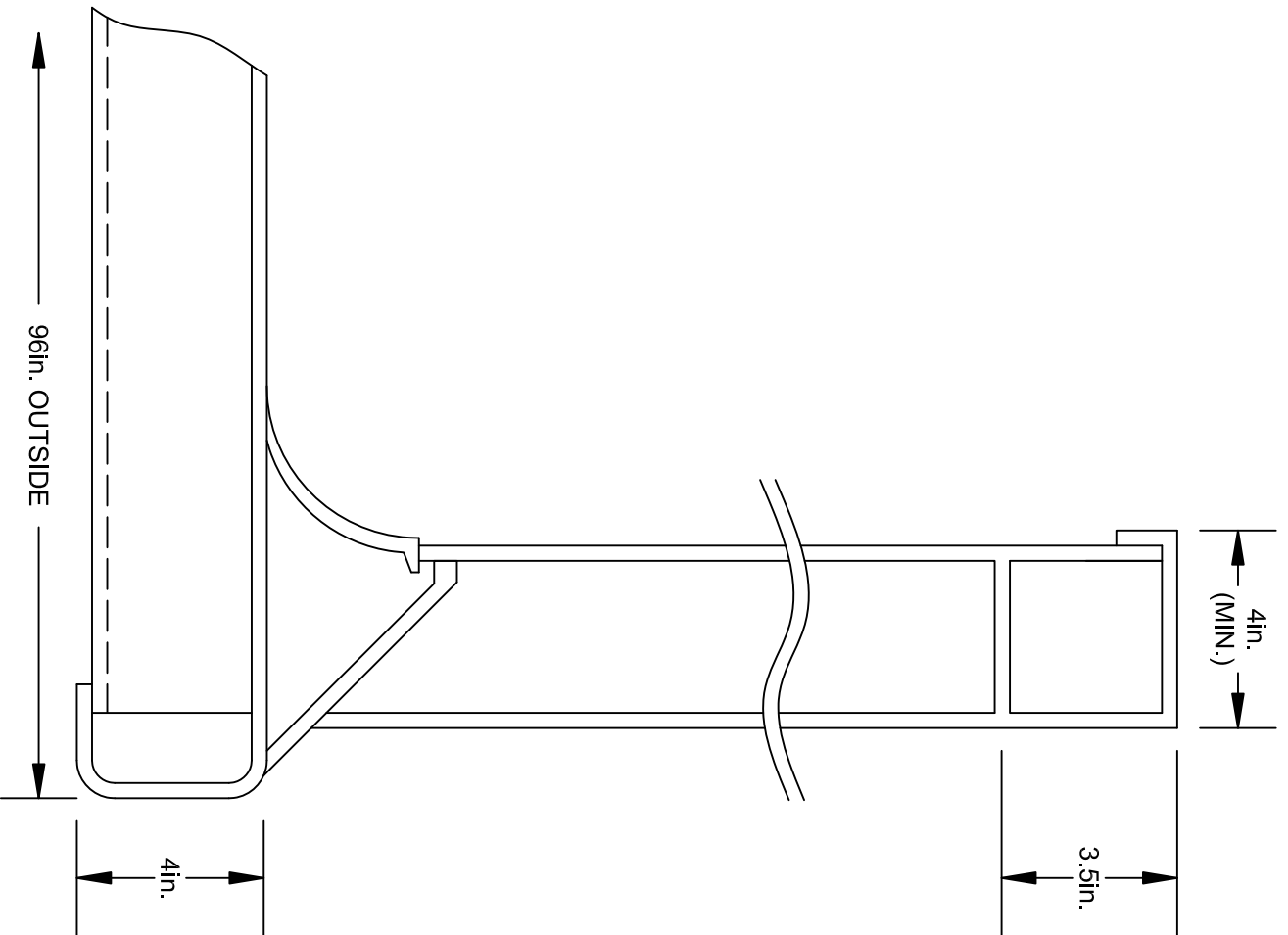
PA DEPARTMENT OF TRANSPORTATION

REVISIONS

NO.	DATE	BY	REVISIONS
1	04-27-15	GAW	
2	08-02-18	KBD	
3	08-08-19	KBD	

TYPE IV DUMP BODY

NO.	DATE	BY	REVISIONS
1	04-27-15	GAW	
2	08-02-18	KBD	
3	08-08-19	KBD	



PA DEPARTMENT OF TRANSPORTATION

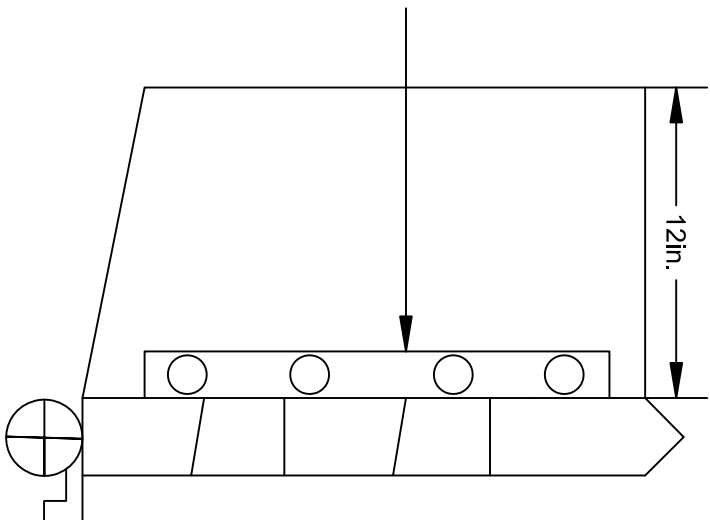
REVISIONS

NO.	DATE	BY	DRAWN BY	DATE	CHK'D BY	Scale	Part Number
1	04-27-15	GAW	DLW	09-25-97	N/A	N/A	EQN-79A
2	08-02-18	KBD	DLW	09-25-97	N/A	N/A	EQN-79A
3	08-08-19	KBD	DLW	09-25-97	N/A	N/A	EQN-79A

**TYPE IV 62,000 lb. TANDEM
ALUMINUM BODY**

TAILGATE WINGS LEFT AND RIGHT INSIDE

NOTES:
 2in. ANGLE ALUMINUM WITH 4
 SLOTTED HOLES .375in. X 1in. ON
 OUTER SIDE. .375in. STAINLESS
 STEEL COUNTERSUNK MACHINE
 SCREWS WITH STAINLESS STEEL
 NUTS AND FLAT WASHERS SHALL
 BE USED.

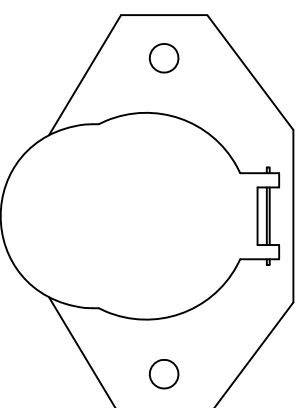
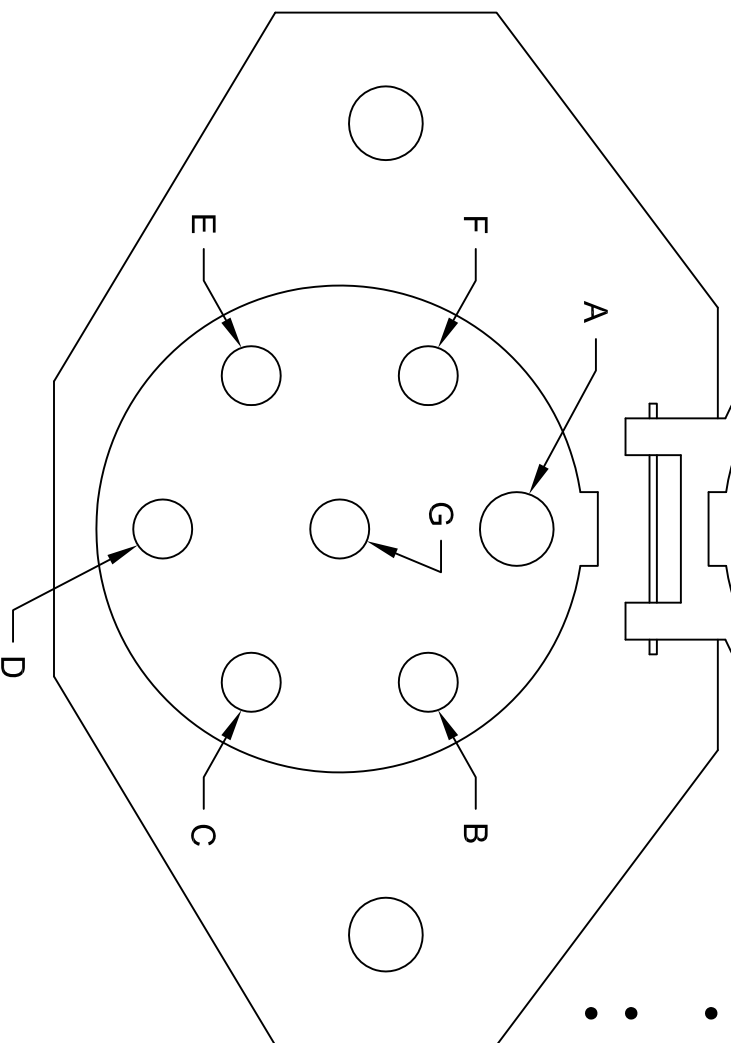
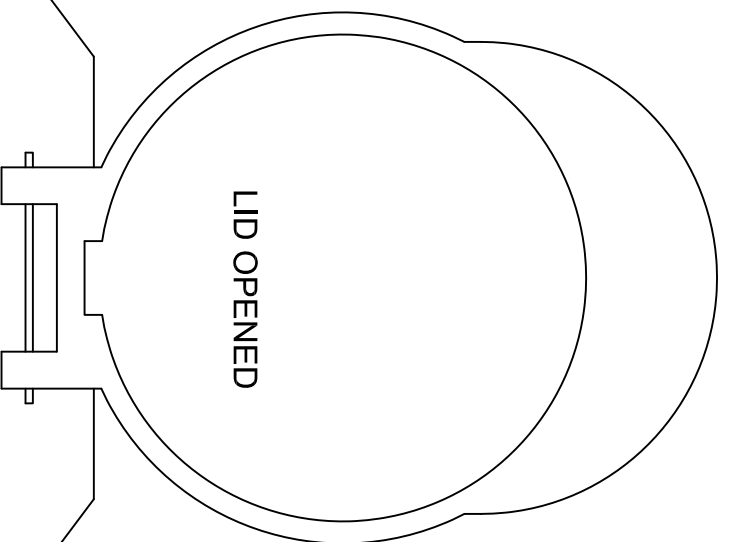


PA DEPARTMENT OF TRANSPORTATION

REVISIONS

NO.	DATE	BY			
1	04-27-15	GAW	TYPE IV DUMP BODY		
2	08-02-18	KBD			
3	08-08-19	KBD			

DRAWN BY	SM	<small>Continued With</small>	
DATE	08-11-93	CHKO BY	
		<small>EON 617 & 557</small>	
		Scale	
		N/A	
		N/A	
			EON-79A
			SHEET 9 OF 9



LID CLOSED

NOTES:

- VIEW OF FEMALE CONNECTOR, STANDING AT REAR OF TRUCK, LOOKING AT THE CONNECTOR.
- BRAKE LIGHTS SHALL FUNCTION WITH TURN SIGNALS.
- WIRE SHALL BE 7 WAY (1-10 GAUGE; 6-12 GAUGE) PER ATA COLOR CODE, CLAMPED EVERY 18" MINIMUM.
- CONNECTION SHALL BE MADE USING FACTORY OEM TRAILER WIRING HARNESS.
- ALL CONNECTIONS SHALL BE WATER TIGHT.
- ALL PINS SHALL BE ROUND STYLE.

WIRING NOTES:

- A. WHITE: GROUND - 10
- B. BLACK: MARKER -12
- C. YELLOW: LEFT TURN & BRAKE - 12
- D. RED: STOP / BRAKE -12
- E. GREEN: RIGHT TURN & BRAKE - 12
- F. BROWN: TAIL - 12
- G. BLUE: ABS -12

PA DEPARTMENT OF TRANSPORTATION

REVISIONS

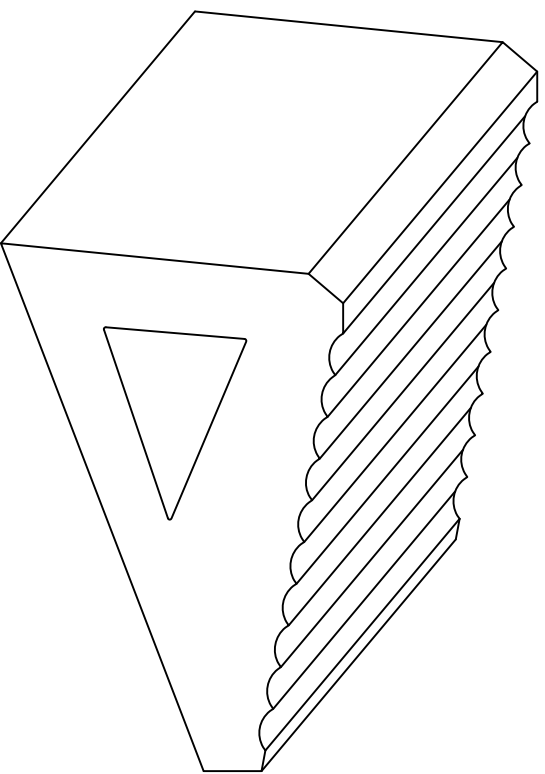
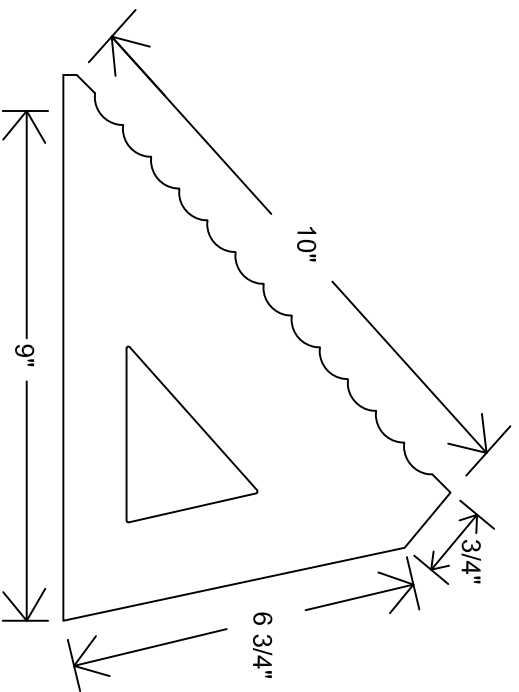
NO.	DATE	BY	DESCRIPTION
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2			
3			

WIRING DIAGRAM / 7 WAY ROUND

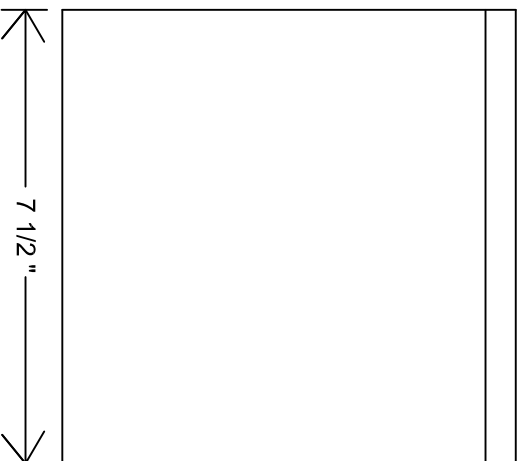
PIN FEMALE CONNECTOR

DRAWN BY JJB EQN-80A

DATE 08-02-16 SHEET 1 OF 1



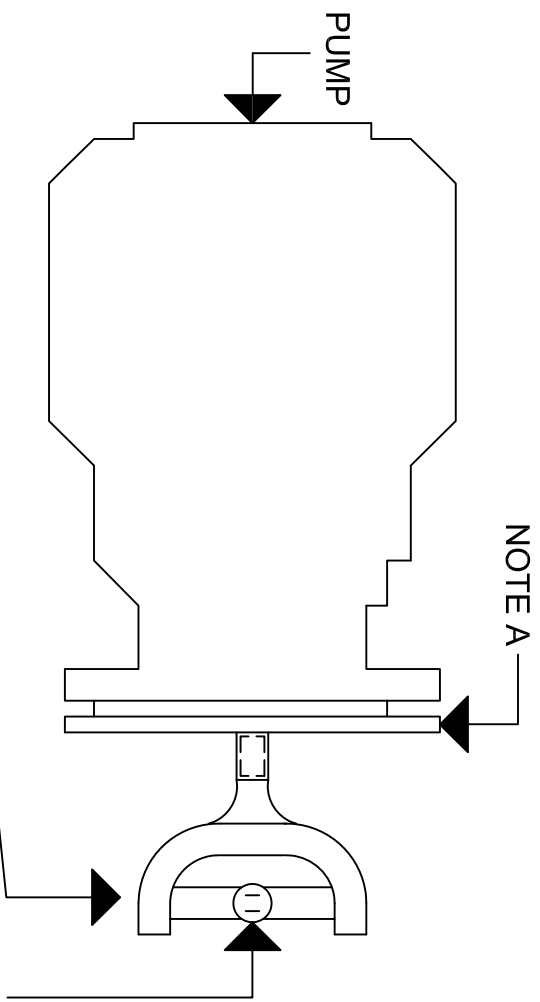
FINAL MOUNTING LOCATION SHALL BE DETERMINED AT THE PRE-BUILD MEETING. CHOCK HOLDERS SHALL BE ALUMINUM OR STAINLESS STEEL. TWO CHOCKS PER TRUCK SHALL BE SUPPLIED. CHOCKS SHALL HAVE 4 FEET OF 3/8 INCH NYLON ROPE CONNECTING THE TWO CHOCKS TOGETHER.



PA DEPARTMENT OF TRANSPORTATION

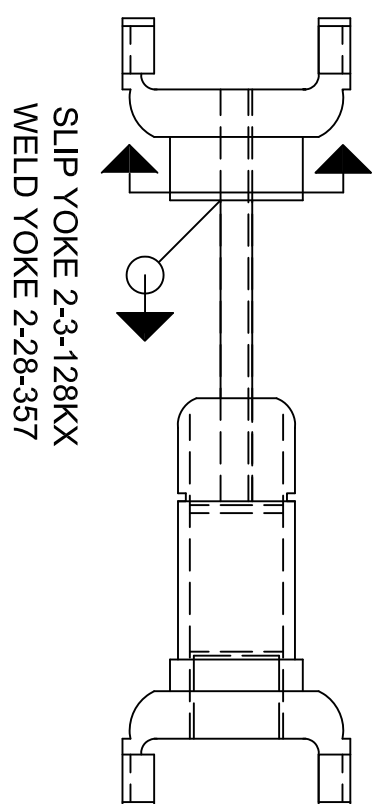
REVISIONS			6 3/4" X 9" X 7 1/2" CHOCK AND HOLDER		
NO.	DATE	BY	DRAWN BY	SCALE	CHECKED BY
1			HMR	N/A	
2					
3					

EQN-82B
SHEET 1 OF 1



COMPANION FLANGE ADAPTER
NO. N3-1-1013-8 OR 35SF-1.50-37

JOURNAL &
BEARING
NO. 5-1310X OR
APPROVED EQUAL

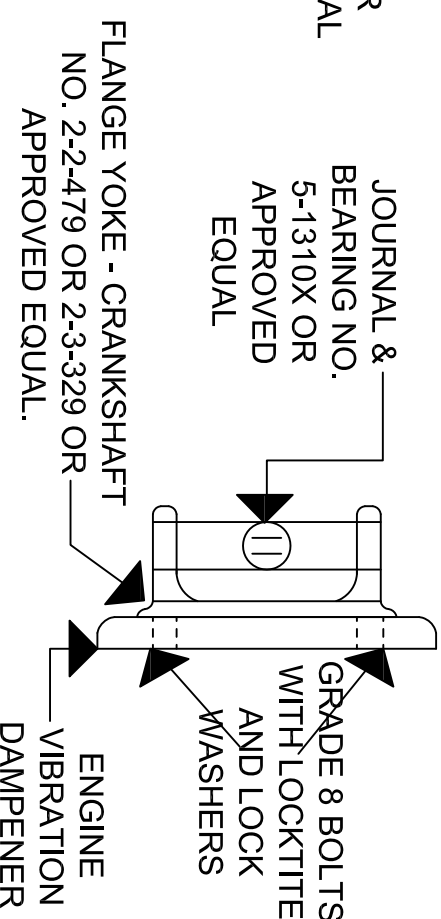


SLIP YOKE 2-3-128KX
WELD YOKE 2-28-357

NOTE A
PUMP MOUNTING BRACKET SHALL BE $\frac{5}{8}$ in.,
MINIMUM, FORMED STEEL CHANNEL. AS
PER EQN - 90 SHEET 2

NOTES:

- 1.) DRIVESHAFT ASSEMBLY SHALL BE FACTORY BALANCED.
- 2.) SPICER 1310 SERIES, OR NEAPCO. NO SUBSTITUTE.
STANDARDIZATION.
- 3.) SLEEVE YOKE SHALL BE 1.375 in. I.D. 16 SPLINES.
- 4.) END YOKE ADAPTER SHALL ACCOMODATE 1.5 in.,
KEYED SHAFT.
- 5.) JOURNAL & BEARING NO. 5-1310X OR APPROVED EQUAL
SHALL BE EQUIPED WITH LUBE FOR LIFE.



JOURNAL &
BEARING NO.
5-1310X OR
APPROVED
EQUAL

FLANGE YOKE - CRANKSHAFT
NO. 2-2-479 OR 2-3-329 OR
APPROVED EQUAL.

GRADE 8 BOLTS
WITH LOCKTITE
AND LOCK
WASHERS

ENGINE
VIBRATION
DAMPENER

PA DEPARTMENT OF TRANSPORTATION

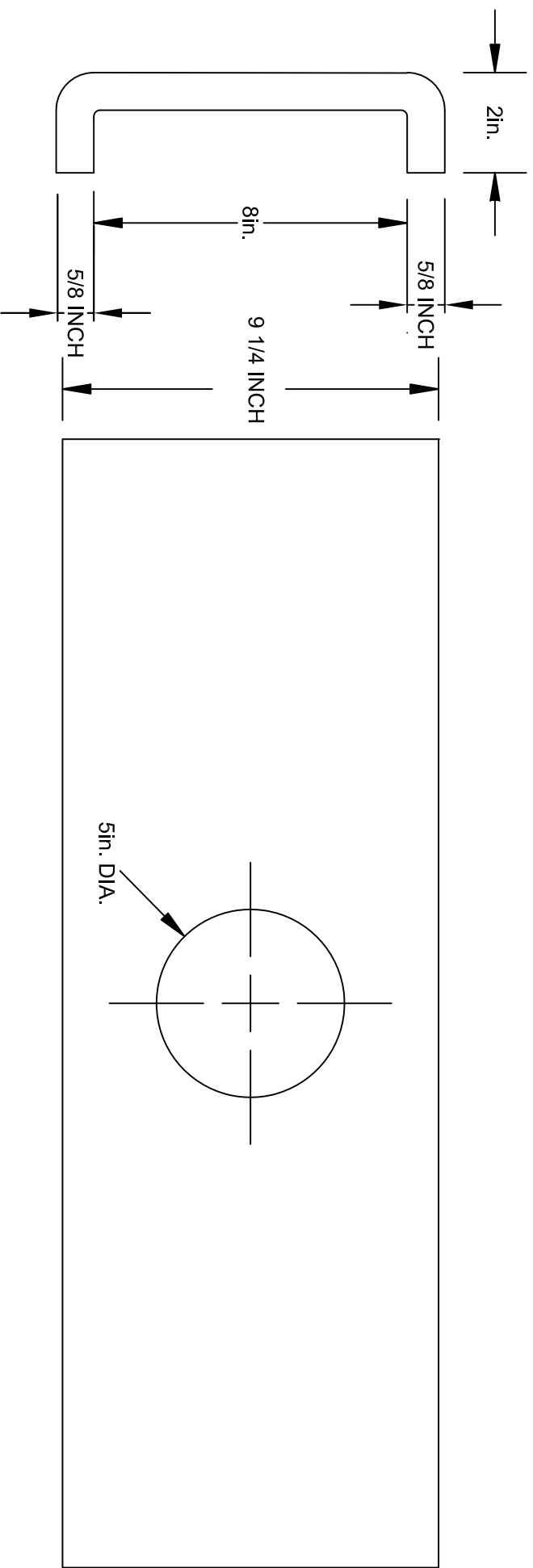
REVISIONS

NO.	DATE	BY	REASON
1	4-6-07	KNH	
2	07-20-09	TOD	
3	07-25-18	KBD	

DUMP TRUCK PTO ASSEMBLY

EQN-90

SHEET 1 OF 2



PUMP MOUNTING BRACKET, REGARDLESS OF DESIGN, SHALL BE A MINIMUM 5/8 in. FORMED STEEL CHANNEL. THE PUMP BRACKET SHALL BE SLOPED TO MATCH THE ENGINE CRANKSHAFT. WIDTH DIMENSION SHALL BE FULL FRAME RAIL WIDTH. BRACKETRY TO ATTACH PUMP MOUNTING BRACKET TO TRUCK FRAME RAILS SHALL BE MINIMUM 5/8 in. THICKNESS. BRACKETS SHALL BE EITHER FULLY WELDED OR USE 3/4 in. GRADE 8 BOLTS OF SUFFICIENT LENGTH AND GRADE 8 LOCK NUTS, MINIMUM TWO BOLTS PER MOUNTING SURFACE.

PA DEPARTMENT OF TRANSPORTATION

REVISIONS

NO.	DATE	BY	PUMP MOUNTING BRACKET	
1	06-03-02	DWG	DRAWN BY	SWW
2	07-20-09	TOD	Checked VTR	EQN-90
3	07-25-18	KBD	DATE	12-04-95
			CHK'D BY	Scale

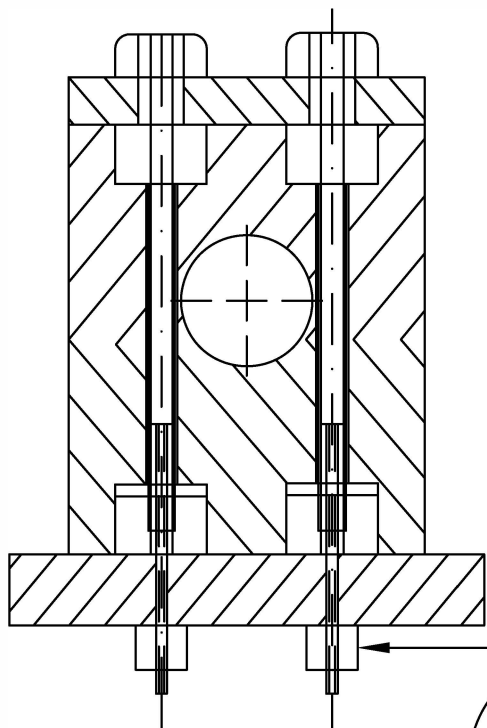
HYDRAULIC HOSES/ FITTINGS

HYDRAULIC HOSES SHALL NOT EXTEND BELOW THE TOP OF THE FRONT AXLE. ALL HYDRAULIC HOSES SHALL BE ADEQUATELY CLAMPED, SHIELDED FROM EXHAUST SYSTEM AND PREVENTED FROM RUBBING UP AGAINST ANY PART OF THE TRUCK FRAME BODY.

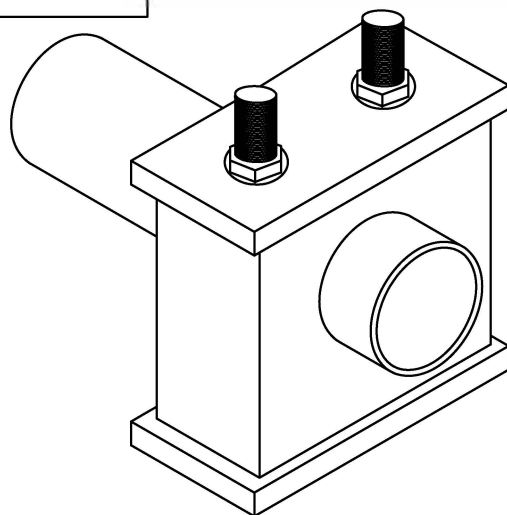
HYCON CLAMPS AS REQUIRED TO PREVENT CHAFFING OR RUBBING. DUE TO THE VARIATIONS OF SIZES PART NUMBERS HAVE NOT BEEN INCLUDED. WELD-ON OR BOLT-ON ARE ACCEPTABLE. AVAILABLE IN STANDARD AND HEAVY DUTY SERIES. LOCATIONS TO BE APPROVED BY CHIEF, FLEET MANAGEMENT DIVISION
REF: HYCON CORPORATION, LEHIGH VALLEY, PA OR BEHRINGER PIPE SYSTEM INC.

NOTE:

ALL BOLTS/NUTS SHALL BE COATED WITH NEVER SIEZE.



BOLT SHALL EXTEND BEYOND BASE



PA DEPARTMENT OF TRANSPORTATION						
REVISIONS			Hydraulic Hose Mounting & Requirements			
NO.	DATE	BY	DRAWN BY	Checked With		
1	10-02-06	CJW				
2	12-20-16	JJB	RED	EQN-23	EQN-94	
3	08-02-18	KBD	DATE	11-03-78	CHK'D BY	Scale
					N/A	N/A
						SHEET 1 OF 5

FRONT COUPLERS SHALL BE MOUNTED TO A MANIFOLD PLATE POSITIONED IN THE CENTER OF THE FRONT FRAME EXTENSION WHICH HOUSES THE PTO ASSEMBLY. MOUNTING SEQUENCE SHALL BE AS FOLLOWS MOVING TOP TO BOTTOM WHEN FACING THE RIGHT SIDE OF THE VEHICLE:

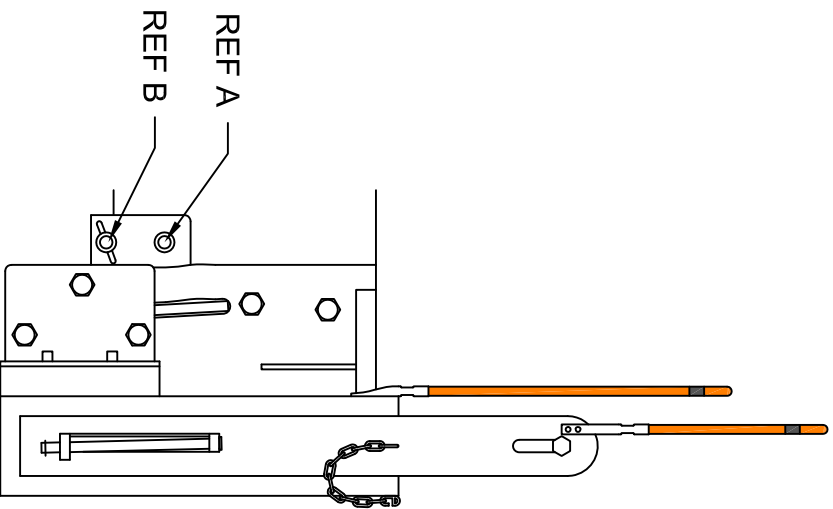
TWO (2) WING COUPLERS: UPPER BEING 5100-S2-8B AERROQUIP MALE AND LOWER BEING 5100-S1-8B AERROQUIP FEMALE

REAR COUPLERS SHALL BE MOUNTED TO A MANIFOLD PLATE ATTACHED AND CENTERED TO THE BOTTOM OF REAR FRAME CROSS MEMBER OR MOUNTED THROUGH REAR CROSS MEMBER IF POSSIBLE. MOUNTING SEQUENCE SHALL BE AS FOLLOWS MOVING TOP TO BOTTOM WHEN FACING THE RIGHT SIDE OF THE VEHICLE:

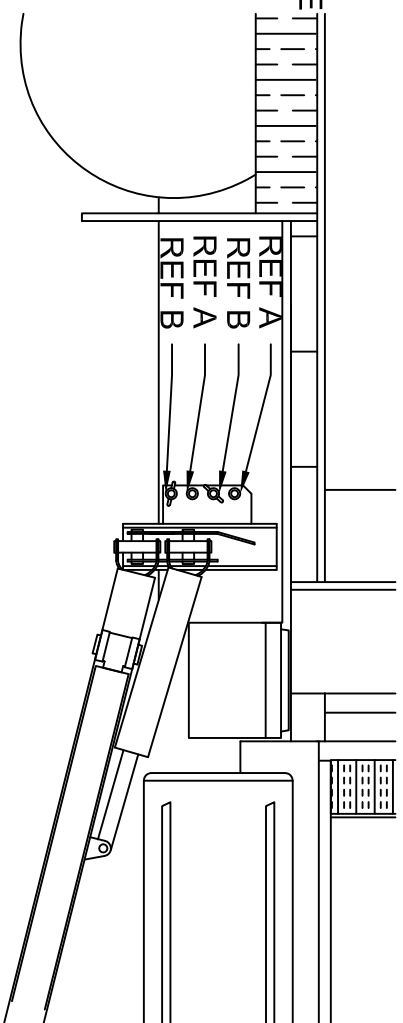
TWO (2) LIFT WING COUPLERS: UPPER BEING 5100-S2-8B AERROQUIP MALE AND LOWER BEING 5100-S1-8B AERROQUIP FEMALE

TWO (2) EXTEND WING COUPLERS: UPPER BEING 5100-S2-8B AERROQUIP MALE AND LOWER BEING 5100-S1-8B AERROQUIP FEMALE

COUPLERS SHALL HAVE DUST PLUGS AFFIXED WITH CHAINS TO PREVENT LOSS OF CAPS.



- NOTES:
 A. 5100-S2-8B MALE
 B. 5100-S1-8B FEMALE



FRONT COUPLERS

PA DEPARTMENT OF TRANSPORTATION

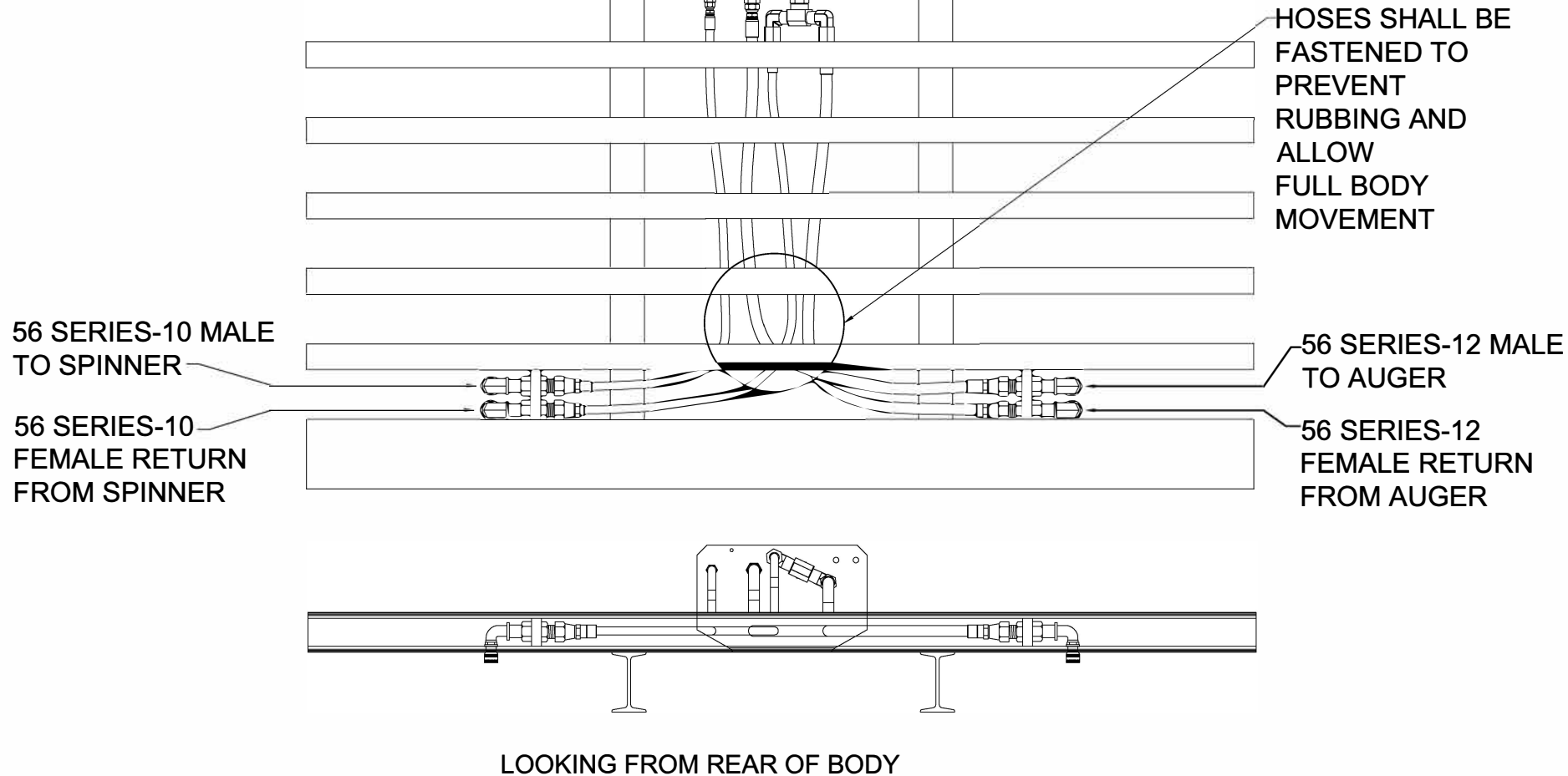
REVISIONS

NO.	DATE	BY	REASON	DATE	CHK'D BY	SCALE	SHEET
1	12-20-16	JJB					
2	07-13-17	HMR					
3	08-02-18	KBD					

Wing Plow Couplers

NO.	DATE	BY	REASON	DATE	CHK'D BY	SCALE	SHEET
1	12-20-16	JJB					
2	07-13-17	HMR					
3	08-02-18	KBD					

EQN-94 SHEET 2 OF 5



5600 SERIES STAINLESS STEEL, 1 EACH (MALE & FEMALE) ON EACH SIDE, QUICK COUPLERS MUST BE USED FOR SPINNER & AUGER CONNECTIONS

4,000 PSI HOSES WITH JIC HOSE ENDS SHALL BE USED.

ONLY APPROVED STAINLES STEEL HYDRAULIC FITTINGS SHALL BE USED.

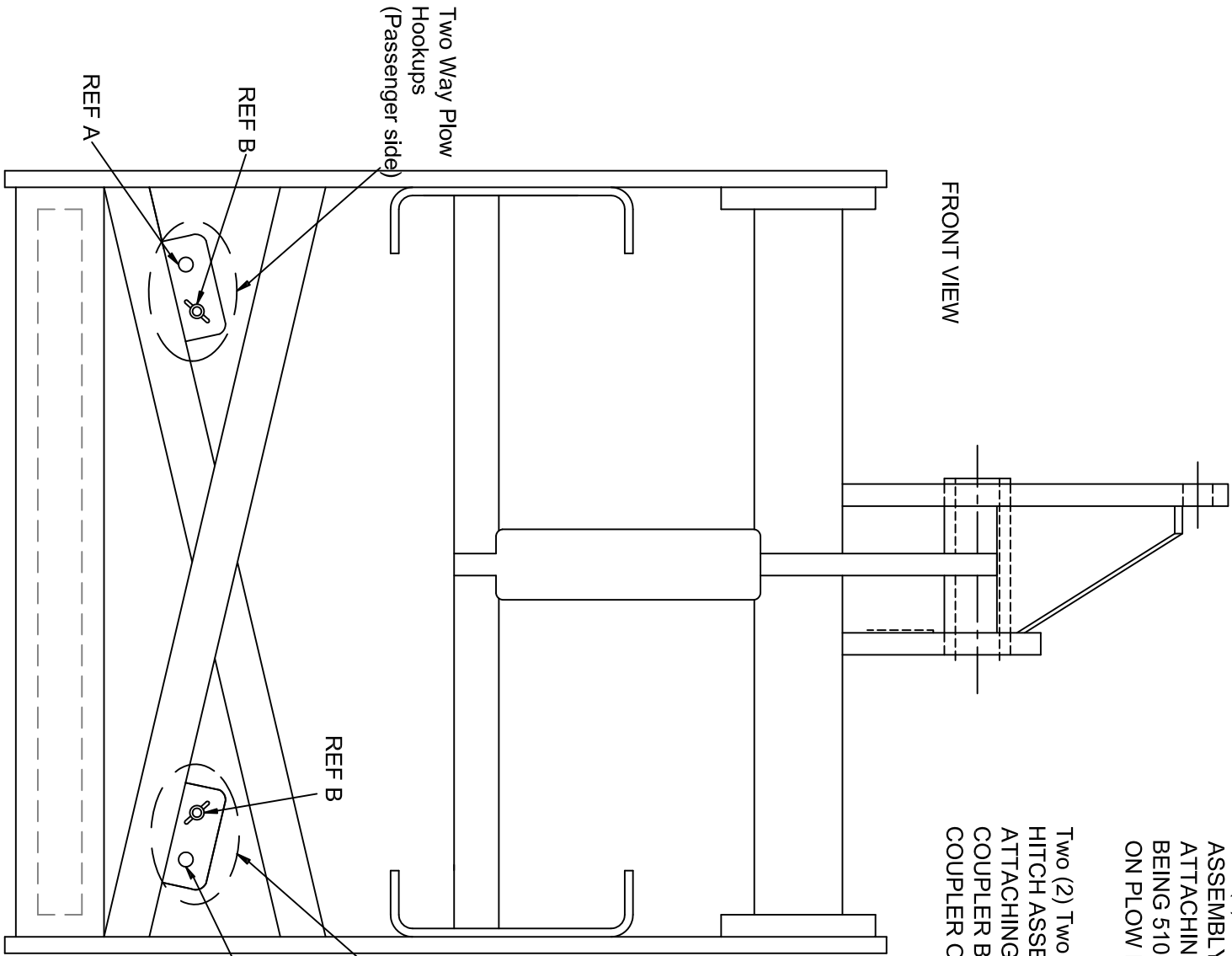
COUPLERS SHALL HAVE DUST PLUGS AFFIXED WITH CHAINS TO PREVENT LOSS OF CAPS.

PA DEPARTMENT OF TRANSPORTATION				
REVISIONS			Rear Hose Manifold	
NO.	DATE	BY		
1	8/1/13	JFM		
2	07-13-17	HMR	DRAWN BY JDS	Combined With EQN-23
3	08-02-18	KBD	DATE 6/15/12	Scale N/A
			EQN-94	
			SHEET 3 OF 5	

Two (2) Plow Hitch Couplers: LOCATED ON DRIVER SIDE OF HITCH ASSEMBLY RIGHT COUPLER BEING 5100-S2-8B AERROQUIP MALE ATTACHING TO FEMALE COUPLER ON PLOW RAM AND LEFT COUPLER BEING 5100-S1-8B AERROQUIP FEMALE ATTACHING TO MALE COUPLER ON PLOW RAM.

Two (2) Two Way Plow Couplers: LOCATED ON PASSENGER SIDE OF HITCH ASSEMBLY LEFT COUPLER BEING 5100-S2-8B AERROQUIP MALE ATTACHING TO FEMALE COUPLER ON TWO WAY PLOW AND RIGHT COUPLER BEING 5100-S1-8B AERROQUIP FEMALE ATTACHING TO MALE COUPLER ON TWO WAY PLOW.

FRONT VIEW



HYDRAULIC HOSES SHOULD'NT INTERFEAR WITH ANYTHING WHILE TWO WAY PLOW AND PLOW HITCH IS IN MOTION AND AT REST TO PREVENT DAMAGE TO HOSES.

NOTES:

- A. 5100-S2-8B MALE
- B. 5100-S1-8B FEMALE

Plow Ram Hookups (Driver Side)

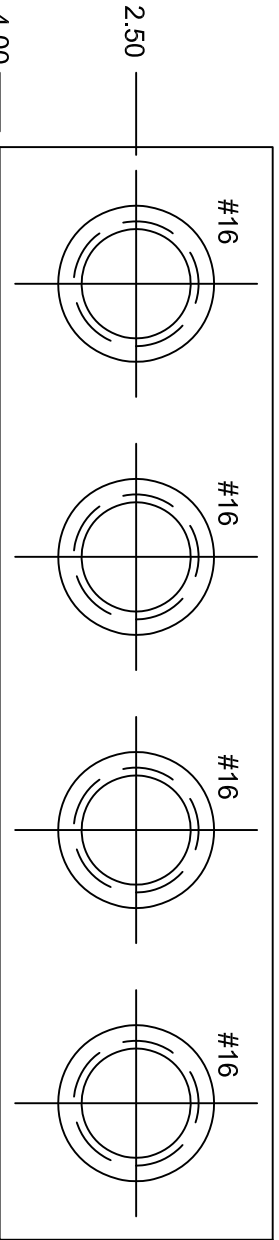
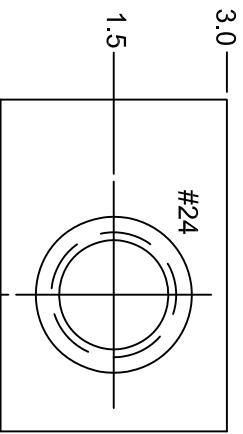
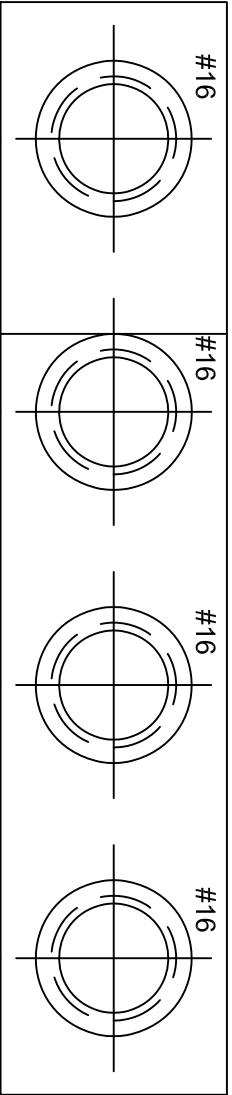
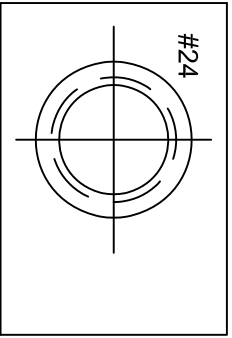
Two Way Plow Hookups (Passenger side)

PA DEPARTMENT OF TRANSPORTATION

REVISIONS

NO.	DATE	BY	DESCRIPTION
1	04-27-15	GAW	Ram Plow & Two Way Plow Couplers
2	12-19-16	JJB	
3	08-02-18	KBD	

DRAWN BY	SWW	CONTINUED WITH	EQN-94
CHECKED BY	N/A	SCALE	
DATE	09-25-95		SHEET 4 OF 5



PA DEPARTMENT OF TRANSPORTATION

REVISIONS

2 Hydraulics Components Overview

Header Block

NO.	DATE	BY	DRAWN BY	DATE	CHKD BY	SCALE	SHEET
1	08-03-01	DWG	GAH	03-01-00	N/A	N/A	5 OF 5
2	11-02-06	CJW	GAH	03-01-00	N/A	N/A	5 OF 5
3	08-02-18	KBD					5 OF 5

SECTION 393.86 READS AS FOLLOWS: "EVERY MOTOR VEHICLE, EXCEPT TRUCK-TRACTORS, POLE TRAILERS, AND VEHICLES IN DRIVEWAY-TOWAWAY OPERATIONS, THE DATE OF MANUFACTURE OF WHICH IS SUBSEQUENT TO DECEMBER 31, 1952, WHICH IS SO CONSTRUCTED THAT THE BODY OR THE CHASSIS ASSEMBLY IF WITHOUT A BODY HAS A CLEARANCE AT THE REAR END OF MORE THAN 30 in. FROM THE GROUND WHEN EMPTY, SHALL BE PROVIDED WITH BUMPERS OR DEVICES SERVING SIMILAR PURPOSES WHICH SHALL BE SO CONSTRUCTED AND LOCATED THAT: (A) THE CLEARANCE BETWEEN THE EFFECTED BOTTOM OF THE BUMPERS OR DEVICES AND THE GROUND SHALL NOT EXCEED 30 in. WITH VEHICLE EMPTY; (B) THE MAXIMUM DISTANCE BETWEEN THE CLOSEST POINTS BETWEEN BUMPERS, OR DEVICES, IF MORE THAN ONE IS USED, SHALL NOT EXCEED 24 in.; (C) THE MAXIMUM TRANSVERSE DISTANCE FROM THE WIDEST PART OF THE MOTOR VEHICLE AT THE REAR TO THE BUMPER OR DEVICE SHALL NOT EXCEED 18 in.; (D) THE BUMPER OR DEVICES SHALL BE LOCATED NOT MORE THAN 24 in. FORWARD OF THE EXTREME REAR OF THE VEHICLE; (E) AND THE BUMPER OR DEVICES SHALL BE SUBSTANTIALLY CONSTRUCTED AND FIRMLY ATTACHED. MOTOR VEHICLES CONSTRUCTED AND MAINTAINED SO THAT THE BODY, CHASSIS, OR OTHER PARTS OF THE VEHICLE AFFORD THE REAR END PROTECTION CONTEMPLATED SHALL BE DEEMED TO BE IN COMPLIANCE WITH THIS SECTION."

THE REGULATIONS ALSO REQUIRE ALL MOTOR VEHICLES TRANSPORTING HAZARDOUS MATERIALS REQUIRING PLACARDING BE EQUIPPED WITH REAR END PROTECTION (REFERANCE 49CFR PART 397, 49 CFR SECTION 177.823, 49 CFR PART 172, AND 49 CFR SECTION 171.12A).

ALTHOUGH SECTION 393.86 DOES NOT SET FORTH SPECIFIC PERFORMANCE REQUIREMENTS FOR THE REAR END PROTECTION STRUCTURE, SUBPART J - SPECIFICATIONS FOR CONTAINERS FOR MOTOR VEHICLE TRANSPORTATION OF PART 178 - SHIPPING CONTAINER SPECIFICATIONS OF SUBCHAPTER C - HAZARDOUS MATERIAL REGULATIONS OF CHAPTER I - RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION DOES CONTAIN SPECIFIC PERFORMANCE REQUIREMENTS FOR REAR END PROTECTION ON CARGO TANK MOTOR VEHICLES (REFERENCE SECTIONS 178.337-10(D), 178.338-10(C), 178.345-8(D), 178.346-8, 178.347-8, AND 178.348-8). PENNSYLVANIA HAS ADOPTED 49 CFR 393.86 REAR END PROTECTION FOR COMMERCIAL MOTOR VEHICLES WITH A GVW OF 17,000 lbs. / 7711.07 kg. OR MORE OPERATED IN INTRASTATE COMMERCE, AND ANY SIZE VEHICLE HAULING HAZARDOUS MATERIALS REQUIRING PLACARDS WITH AN ADDITIONAL REQUIREMENT: "SOME PART OF THE HORIZONTAL BUMPER BAR SHALL FALL WITHIN 16-30in. / 40.64-76.2cm. ABOVE GROUND LEVEL." SEE TITLE 67 CHAPTER 175 OF THE PENNSYLVANIA CODE FOR THE SPECIFIC REQUIREMENTS FOR REAR END PROTECTION ON COMMERCIAL MOTOR VEHICLES WITH A GVW OF 10,001-17,000 lbs. / 4536.38-7711.07 kg. OPERATED IN INTRASTATE COMMERCE.

**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION**

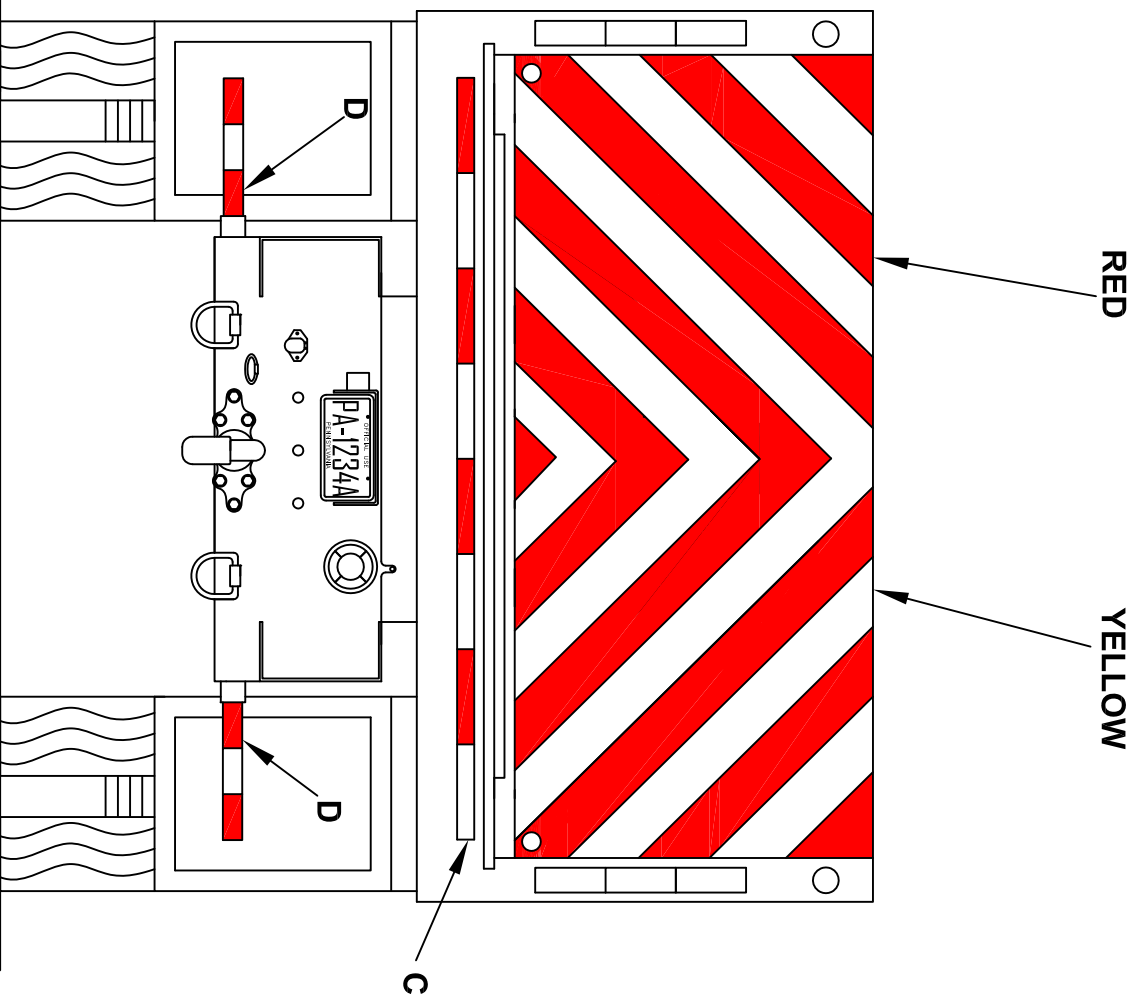
REVISIONS

NO	DATE	BY	UNDERRIDE PROTECTION
1	07/08/97	DLW	
2	07/01/03	KGK	
3	06/26/09	TOD	

UNDERRIDE PROTECTION

DRAWN BY	DLW	SCALE	N/A	EQN -118
DATE	02-04-92	CHECKED BY	RR	SHEET 1 OF 1

**ANY / ALL REVISIONS SHALL
SUPERSEDE THE ABOVE**



RED

YELLOW

A THE ALUMINUM TAILGATE SHALL BE UNPAINTED. THE TAILGATE SHALL BE STRIPED AS SHOWN WITH 8" WIDE ALTERNATING RED/YELLOW BANDS CREATING A CHEVRON (INVERTED V) AT 45 DEGREE ANGLES, ACROSS THE GATE TO SERVE AS A SAFETY WARNING SYSTEM.

B TAPE SHALL BE REFLEXITE DAYBRIGHT V92 CONSPICUITY SHEETING. RED - SRH14R PN# 18716, LIME - SRH14Y PN# 18836 VC 312. TWO 4" SHEETS CAN BE COMBINED TO EQUAL THE 8" REQUIREMENT.

C THE ENTIRE WIDTH DIRECTLY UNDER THE TAILGATE SHALL BE COVERED WITH 1 1/2" WIDE SCOTCHLITE CONSPICUITY SHEETING SERIES 980 OR REFLEXITE CONSPICUITY II SYSTEM. MATERIAL SHALL BE RED/SILVER, CONTINUOUS BACKING.

D THE ENTIRE LENGTH OF BOTH ICC BARS SHALL BE COVERED WITH 1 1/2" WIDE SCOTCHLITE CONSPICUITY SHEETING SERIES 980 OR REFLEXITE CONSPICUITY II SYSTEM. MATERIAL SHALL BE RED/SILVER, CONTINUOUS BACKING.

THIS DRAWING SHALL BE FOR CONSPICUITY REFERENCE ONLY, NOT TAILGATE CONSTRUCTION.

THIS VEHICLE SHALL COMPLY WITH THE RULES OF THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION (NHTSA). THE MOST CURRENT REGULATIONS SHALL BE ADHERED TO.

PA DEPARTMENT OF TRANSPORTATION

REVISIONS

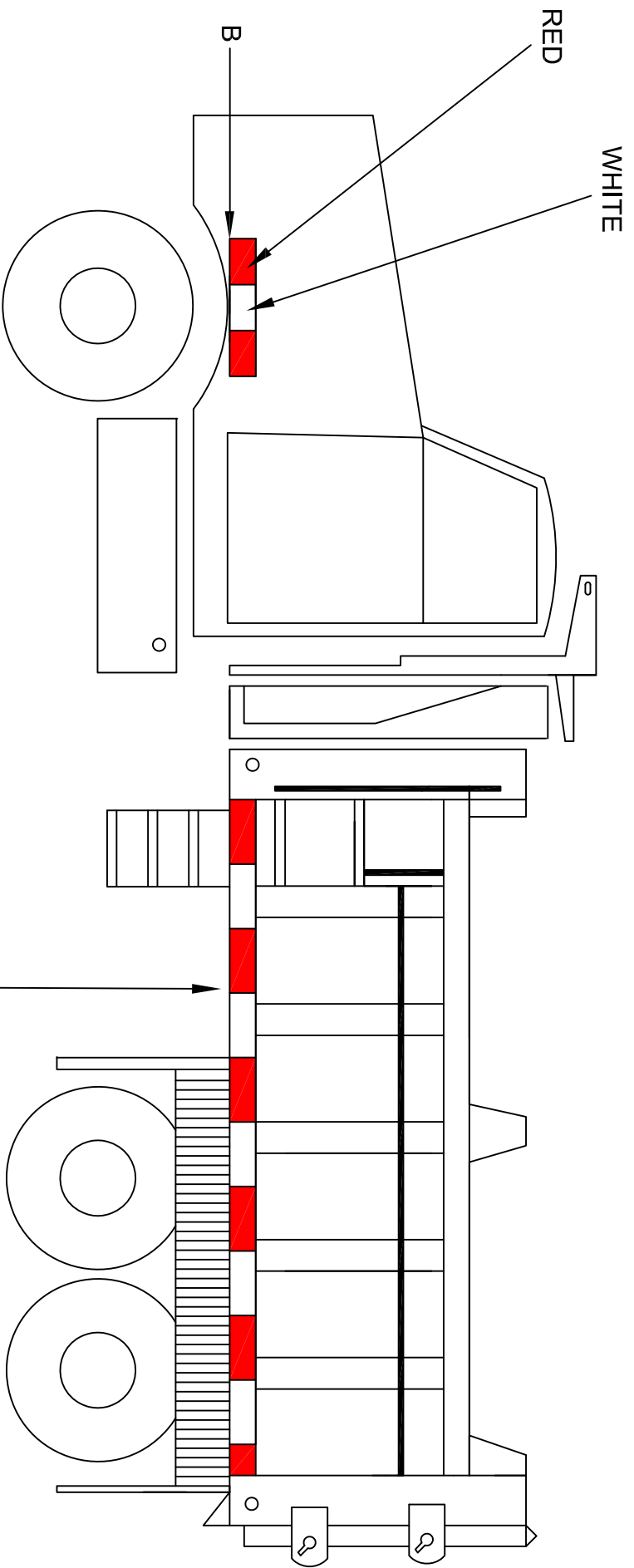
NO.	DATE	BY	REASON
1	05-20-13	JFM	REFLECTIVE SHEETING
2	06-30-14	ACT	REFLECTIVE SHEETING
3	07-24-18	KBD	REFLECTIVE SHEETING

DUMP BODY

REFLECTIVE SHEETING

NO.	DATE	BY	REASON
1	05-20-13	JFM	REFLECTIVE SHEETING
2	06-30-14	ACT	REFLECTIVE SHEETING
3	07-24-18	KBD	REFLECTIVE SHEETING

EQN-122
SHEET 1 OF 3



A THE ENTIRE LENGTH OF BODY RUB RAILS SHALL BE COVERED WITH 2" WIDE SCOTCHLITE CONSPICUITY SHEETING SERIES 980 OR REFLEXITE CONSPICUITY II SYSTEM MATERIAL SHALL BE RED/SILVER, CONTINUOUS BACKING.

B THE AREA ABOVE FRONT TIRES SHALL BE COVERED WITH MINIMUM 18 INCHES, 2" WIDE SCOTCHLITE CONSPICUITY SHEETING SERIES 980 OR REFLEXITE CONSPICUITY II SYSTEM MATERIAL SHALL BE RED/SILVER, CONTINUOUS BACKING. ITEM B NEEDS TO BE AS CLOSE AS POSSIBLE IN A STRAIGHT LINE WITH ITEM A. ALTERNATE PLACEMENT OF ITEM B NEEDS TO BE APPROVED BY THE CHIEF OF THE EQUIPMENT DIVISION

THE CHIEF OF THE EQUIPMENT DIVISION SHALL APPROVE ALL STRIPING AND MONITOR THE PRODUCTION BY THE SUCCESSFUL VENDOR. ALL DIMENSIONS IN INCHES.

PA DEPARTMENT OF TRANSPORTATION

REVISIONS			DRAWN BY		EQU-122
NO.	DATE	BY	DATE	CHK'D BY	
1	05-20-13	JFM	07-14-09	TOD	SHEET 2 OF 3
2	06-30-14	ACT			
3	07-24-18	KBD			

DUMP BODY REFLECTIVE SHEETING

THIS VEHICLE SHALL COMPLY WITH THE RULES OF THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION (NHTSA) IN THAT:

THE MOUNTING HEIGHT OF THE HORIZONTAL STRIPES ARE RESTRICTED TO THE SAME HEIGHT AS OTHER RETROREFLECTIVE DEVICES CURRENTLY REQUIRED BY STANDARD NUMBER 108. THE CENTER OF THE MATERIAL MUST NOT BE LESS THAN 15in. ABOVE THE ROAD SURFACE, AND THE UPPER EDGE NOT MORE THAN 60in. ABOVE IT.

REFLECTIVE MATERIAL SHALL BE APPLIED TO THE HORIZONTAL BAR OF THE REAR UNDERIDE DEVICE IN ADDITION TO THE FLOOR LEVEL HORIZONTAL STRIPE. THE UPPER CORNERS ARE TO BE MARKED BY TWO 90 DEGREE ANGLE BRACKETS OF WHITE STRIPES 12in. BY TWO INCHES WIDE, INDICATING THE WIDTH AND HEIGHT OF THE TRAILER.

THE CONFIGURATION SHALL IDENTIFY THE VEHICLE AS TO ITS ESTIMATED SIZE AND THE CLOSING DISTANCE TO IT. THE DISTRIBUTION OF SPACES AND MATERIALS SHALL BE AS UNIFORM AS PRACTICAL AND INDICATE THE FULL LENGTH AND WIDTH OF THE VEHICLE. THE COLORS SHALL BE PLACED IN ALTERNATING SEQUENCE WITH MORE THAN TWO-THIRDS OF THE MATERIAL IN COLOR.

CONSPICUITY TAPE SHALL BE REFLECTORIZED. 2in. WIDE, MATERIAL SHALL BE APPLIED. MATERIAL SHALL BE RED/SILVER CONTINUOUS BACKING REFLEXITE CONSPICUITY II SYSTEM OR 3M SCOTCHLITE CONSPICUITY SHEETING SERIES 980.

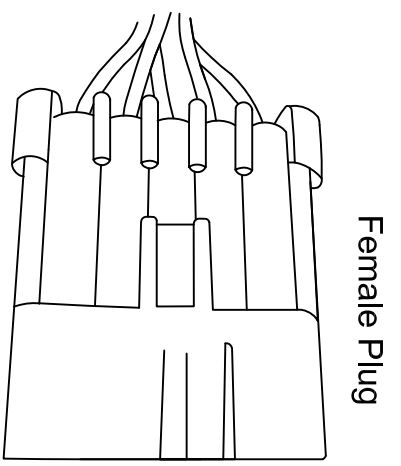
THE MOST CURRENT REGULATIONS SHALL BE ADHERED TO.

PA DEPARTMENT OF TRANSPORTATION			
REVISIONS		CONSPICUITY TAPE STRIPING REQUIREMENTS	
NO.	DATE	BY	
1	11-03-06	CJW	
2	01-02-09	MHH	DRAWN BY DLW
3	07-24-18	KBD	Checked With Scale
			DATE 11-07-97
			EQN-122
			SHEET 3 OF 3

NOTE : THIS LIGHT DESIGN IS ONE OF TWO LIGHT DESIGN THAT ARE ACCEPTABLE

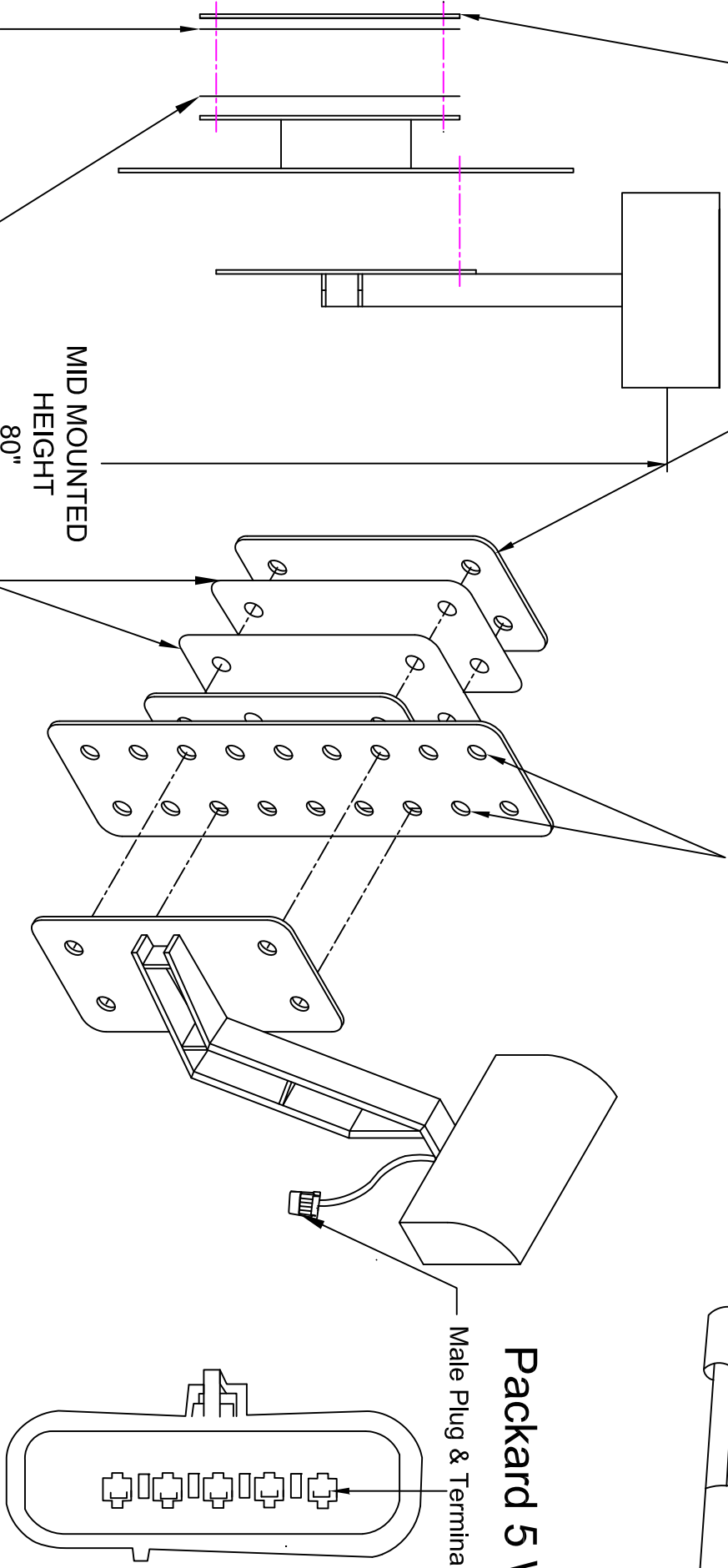
PLATE MOUNTED FAST TO TRUCK

ADDITIONAL HOLES TO ALLOW 6" OF VERTICAL HEIGHT ADJUSTMENT (3" UP AND 3" DOWN FROM ORIGINAL HEIGHT)



Packard 5 Way

Male Plug & Terminals

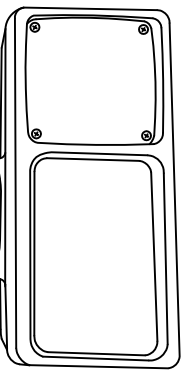


GROUND LEVEL

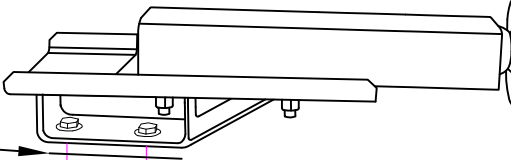
PA DEPARTMENT OF TRANSPORTATION				HEADLIGHT ADJUSTMENT BRACKET	
REVISIONS				Drawn By	
NO.	DATE	BY		JJB	
1	07-26-18	KBD			
2					
3					
				Checked With	EQN-180
				DATE	SHEET 1 OF 2
				N/A	N/A

NOTE : THIS LIGHT DESIGN IS ONE OF TWO LIGHT DESIGN THAT ARE ACCEPTABLE

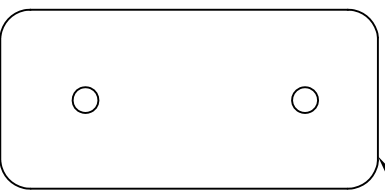
Packard 5 Way



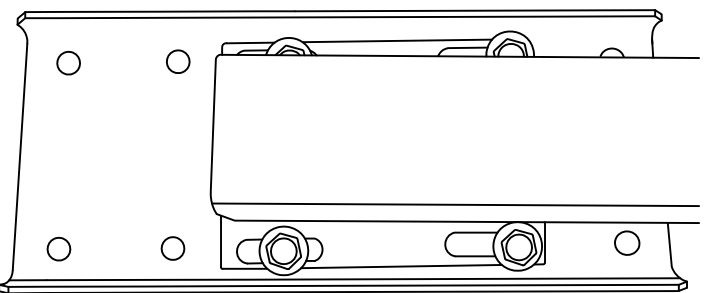
Light Front View



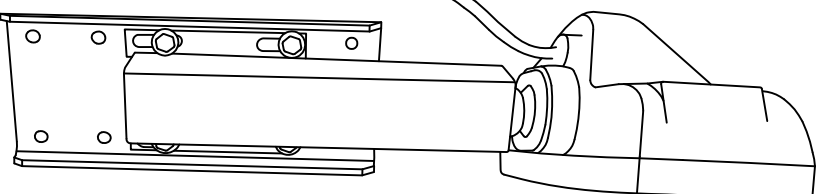
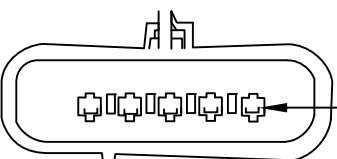
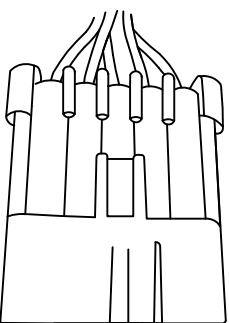
Protective Liner



Light Bracket



Female Plug



Light Side View

PA DEPARTMENT OF TRANSPORTATION

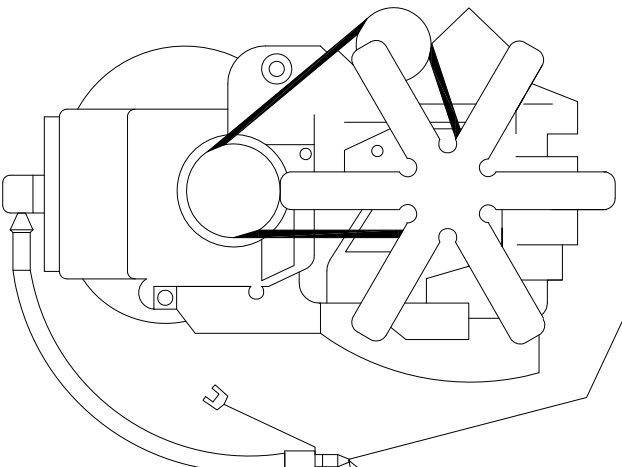
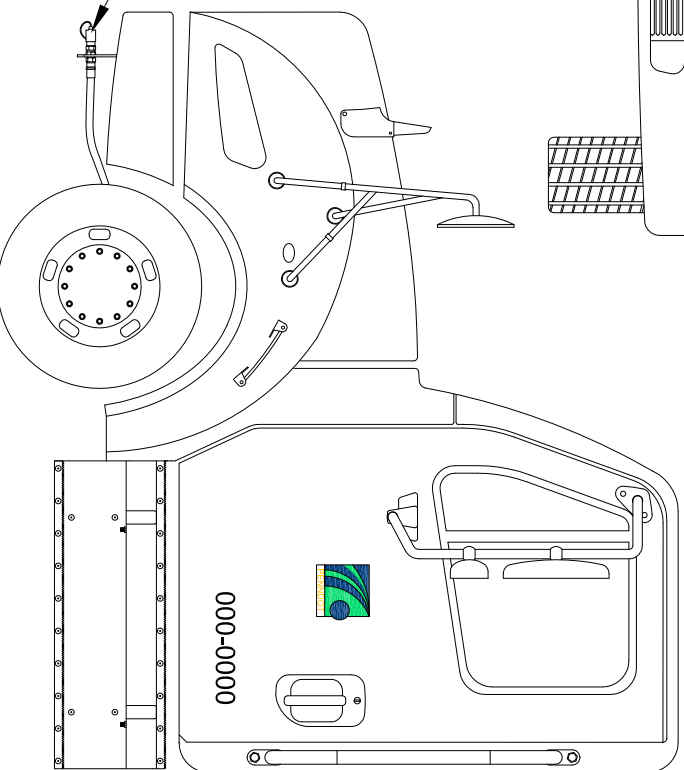
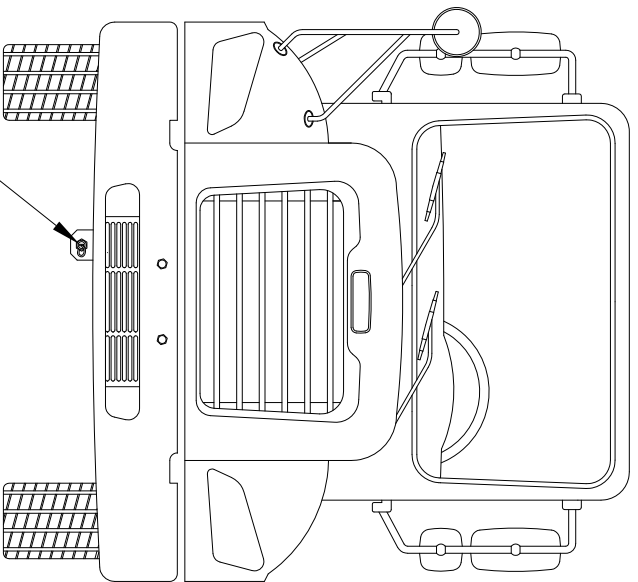
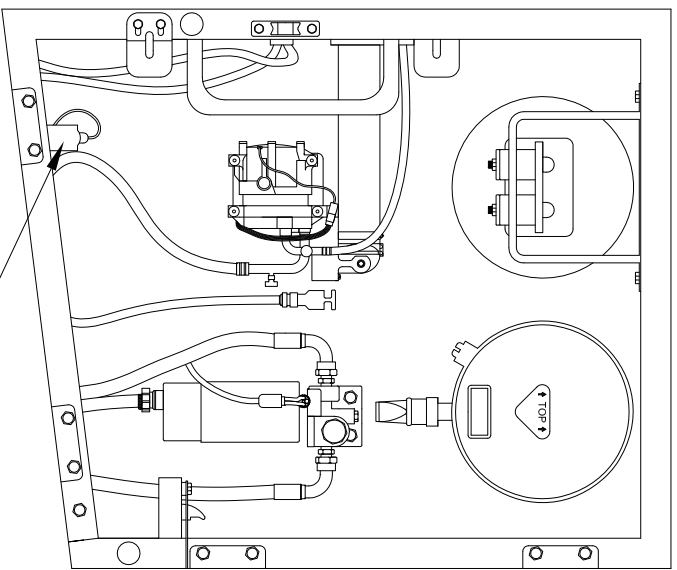
REVISIONS

NO. DATE BY

Plow Truck Light & Bracket

NO.	DATE	BY	DRAWN BY	Checked by	Scale
1			KBD		
2					
3					

DATE 07-26-18 EQN-180
Sheet 2 OF 2



DISCONNECT
COUPLING
FLOCS
ENGINE KIT

PA DEPARTMENT OF TRANSPORTATION

REVISIONS

NO.	DATE	BY	SCALE
1	07-01-03	BLD	N/A
2	10-20-06	CJW	N/A
3	06-19-13	JFM	N/A

**FAST LUBE OIL CHANGE SYSTEM
OVERVIEW AND PARTS LIST**

NO.	DATE	BY	SCALE
1	07-01-03	BLD	N/A
2	10-20-06	CJW	N/A
3	06-19-13	JFM	N/A

000-0000



1. CONTACT AEROQUIP WITH YOUR DRAIN PAN PLUG SIZE
2. AEROQUIP DEALER TELEPHONE NUMBERS:

ADVANCED FLUID CONNECTORS..... 717-757-1068
 AIR BRAKE & POWER EQUIPMENT CO.. 717-622-6188
 AMERICAN BEARING & POWER..... 717-569-3291
 GOODALL RUBBER COMPANY 610-534-2100
 POWER DRIVES INC..... 814-833-8181
 R L MILLER INC..... 412-833-6800
 R L MILLER INC..... 814-456-8900
 SRG/BEVCO..... 610-358-3100
 VOTO MANUFACTURERS SALES CO.... 814-226-7101

FLOCS SHALL INCLUDE, BUT NOT LIMITED TO:

- A. DUST CAP 5657-12
- B. HOSE TO SUIT LENGTH
- C. HOSE FITTING TO SUIT
- D. ADAPTER TO SUIT
- E. HOSE CLAMP #900729-6
- F. BRACKET TO SUIT
- G. COUPLING 5602-12-12S

PA DEPARTMENT OF TRANSPORTATION

REVISIONS		FAST LUBE OIL CHANGE SYSTEM OVERVIEW AND PARTS LIST	
NO	DATE	BY	
1	07-01-03	BLD	
2	10-20-06	CJW	SCALE N/A
3	06-19-13	JFM	DATE 08-22-97

Centralized Lubrication System On Road Equipment EQN - 501

There shall be an automatic centralized lubrication system professionally installed to maintain all the daily, weekly, and monthly lubrication points. Only electrically controlled, #2 chassis grease systems shall be accepted. The use of pneumatic systems is unacceptable. The requirements for the lubrication system components and installation procedures are outlined below. It is the responsibility of the vendor to ensure that the automatic lubrication system complies with all of these requirements.

1. Performance Requirements

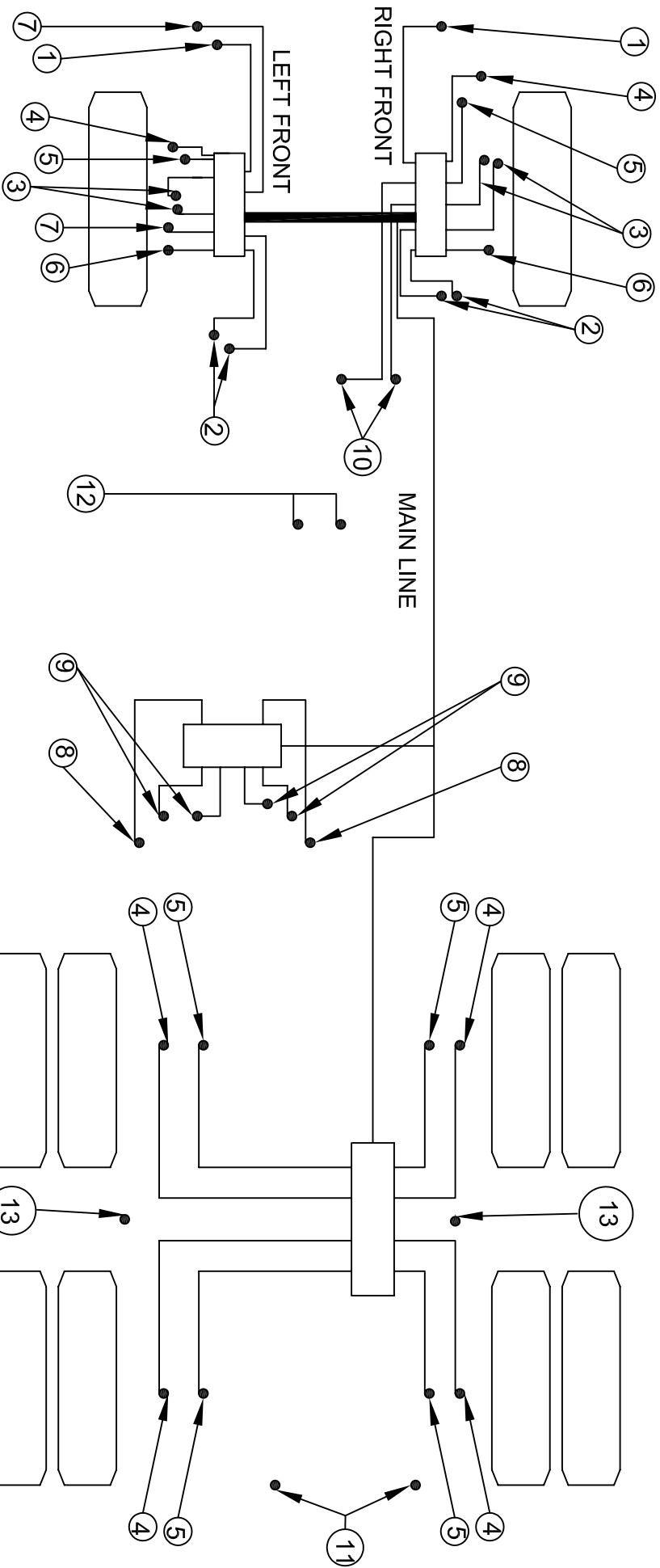
- The system pump shall be capable of delivering NLGI #2 grease over a temperature range of minus 10 degrees Fahrenheit to 120 degrees Fahrenheit.
- The pump shall have an integral adjustable timer to change the grease delivery intervals as needed.
- The system shall use a fused electric pump, either 12 Volt DC or 24 Volt DC depending on application. Pneumatic pumps are not acceptable.
- The pump shall be equipped with a pressure relief valve device at the pump outlet to protect the pump from damage due to over pressure.
- For ease of service, the pump shall have a pumping element located on the side that can be removed and replaced or repaired as needed without having to remove or disassemble the pump.
- The pump shall use a clear or translucent reservoir to allow for visual inspection of the grease level. Reservoir shall have a full level indicator. Bladder type reservoirs are not acceptable.
- The grease reservoir shall be a minimum four pound capacity.
- The system shall have a cab mounted fault light that will notify the operator of a lube system fault and low grease level. If any point in the system will not take grease, the fault light shall illuminate.
- The system shall be a positive displacement series progressive type, using primary and secondary valves.
- All secondary valves shall be non-segmented to minimize the potential leak path and or sources of contamination.
- All valves shall be made of corrosion resistant coated carbon steel.
- The positive displacement proportioning valves shall have a tee and high back pressure grease fittings at each valve inlet for manual filling, system testing, and to fill repaired lines.
- The system shall have a manual override fitting to enable the system to be manually operated if the pump is inoperable.
- Equipment shall have a 2 year manufacturer's warranty.

2. Installation Requirements - On Road

- The system shall use only high pressure hose (4,000 psig operating, 10,000 psig burst). All hoses are to be of US standard sizes (1/8" ID hose 5/16 OD) and readily available from local sources.
- All hoses shall use a two piece re-usable hose end with quick disconnects at the valve outlet for ease of inspection and repair.
- All lines from the secondary valves to the chassis or body inlet points shall be flexible with at least a 500 PSI working pressure. All tubing shall be standard size (1/4 inch OD) and readily available from local sources.
- All line runs will be secured to the chassis or air lines via tie wraps. Protective wrap shall be used for all lines run over any edge of the chassis and especially at the termination points for front suspension including upper & lower king pins, tie rod ends and any exposed lines that are not fixed. The use of steel tubing is prohibited.
- The pump shall be installed in a safe location on the truck chassis that is protected and easy to monitor the grease level and refill. For exact mounting location, contact PennDOT Equipment Division, Specification Unit - 717.787.2123
- Ground Level filling shall be provided for all lube systems. Remote lines are acceptable if reservoir is viewable from remote fill location.
- Installations shall be warranted for 2 years of operation.

PA DEPARTMENT OF TRANSPORTATION				
REVISIONS			CENTRALIZED LUBE SYSTEM	
NO.	DATE	BY		
1			SCALE N/A	EQN-501
2			DRAWN BY TOD	
3			DATE 6-9-09	CHK'D BY SHEET 1 OF 2

MINIMUM TYPICAL LUBE POINTS TANDEM AXLE



MINIMUM TYPICAL
VEHICLE LUBE POINTS.

*ALL LUBRICATION
POINTS SHALL BE
INCORPORATED INTO
THE ON-BOARD GREASE
SYSTEM, INCLUDING ALL
CHASSIS AND BODY
POINTS, EXCEPT
LOCATIONS RESTRICTED
BY ROTATING DESIGN; IE:
DRIVESHAFT & PTO

1. FRONT SPRING PIN
2. FRONT SPRING SHACKLES
(UPPER AND LOWER)
3. KING PIN (UPPER AND LOWER)
4. BRAKE CAM SHAFT
5. BRAKE SLACK ADJUSTER
6. TIE ROD
7. DRAG LINK
8. FIFTH WHEEL PIVOT (IF APPLICABLE)
9. FIFTH WHEEL PLATE (IF APPLICABLE)
10. CLUTCH CROSS SHAFT
11. REAR DUMP BED HINGE (1 EACH SIDE)
12. TOP AND BOTTOM OF HOIST CYL.

13. DEPENDING ON APPLICATION, ALL REAR SUSPENSION,
TRUIONS, LEAF SPRINGS

PA DEPARTMENT OF TRANSPORTATION

REVISIONS		CENTRALIZED LUBE SYSTEM GENERIC ARRANGEMENT	
NO.	DATE	BY	SCALE
1	12-15-00	GAH	N/A
2	01-02-07	CJW	N/A
3	06-09-09	TOD	N/A
4			
5			

	DRAWN BY GAH	DATE 8-31-99	CHECKED BY LHA
	EQU-501	SHEET 2 OF 2	

ITEM NUMBER	DESCRIPTION	TRUCK REAR LB.	TRUCK REAR KG.	TRUCK FRONT LB.	TRUCK FRONT KG.	TOTAL LB. OR KG.
1.	CHASSIS WEIGHT					
2.	DIESEL FUEL					
3.	DRIVER					200 lb.
4.	BODY					
5.	BODY HOIST					
6.	SPREADER					
7.	PLOW FRAME					
8.	SNOW PLOW					*
9.	FRONT PTO, ADAPTER & PUMP					
10.	PAYLOAD					
11.	HYDRAULIC OIL & TANK					
12.	PATROL STYLE WING PLOW					
13.	FRONT WING POST (PATROL)					
14.	REAR WING POST (PATROL)					
15.	PREWET TANK ___ GALLON					

NOTES:

- (1) THE INFO. SHALL BE SUBMITTED IN ITS ENTIRETY & SUBMITTED WITH BID.
- (2) ALL THE ACCESSORIES REQUIRED TO BE "FULLY OPERATIONAL" MUST BE INCLUDED IN THE CALCULATION OF WEIGHTS, AS APPLICABLE.
- (3) FOR INFORMATION:

MATERIAL WEIGHTS:

SALT 2,000 lb. PER CUBIC YARD
 AGGREGATE 2,800 lb. PER CUBIC YARD
 TYPE II = 2,900 lb. TYPE IV = 3,500 lb.

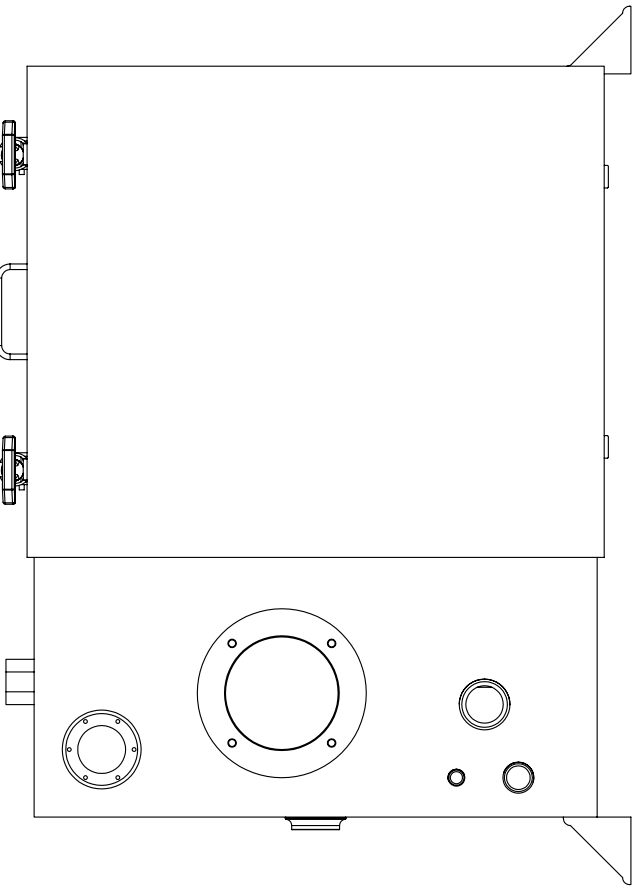
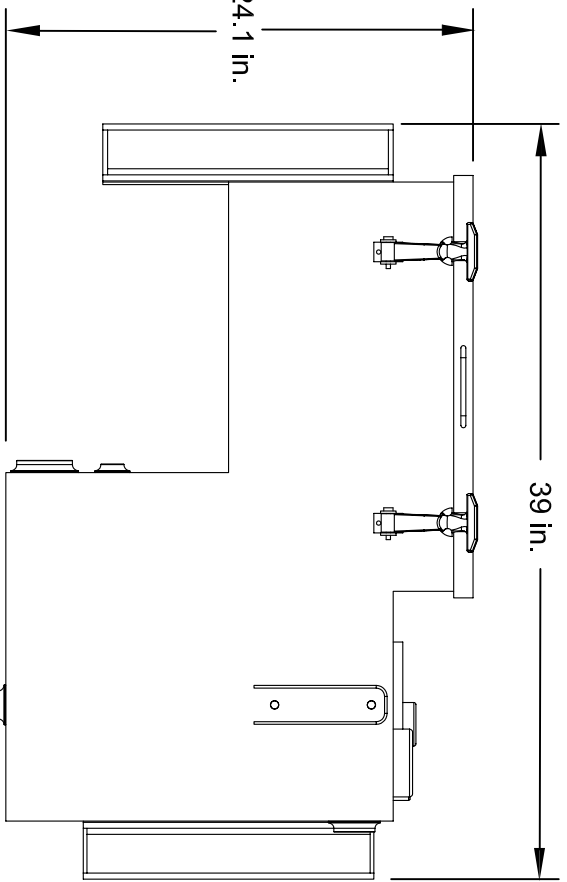
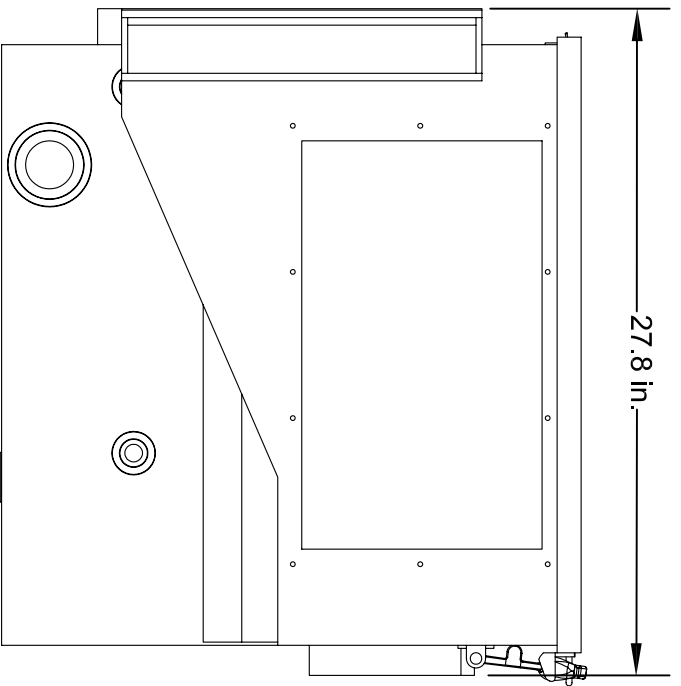
PA DEPARTMENT OF TRANSPORTATION

REVISIONS

NO.	DATE	BY	MINIMUM TRUCK WEIGHT DISTRIBUTION	MINIMUM DATA REQUIRED
1	05-16-07	KNH		
2	07-20-09	TOD		
3	07-24-18	KBD		

DUMP TRUCK WEIGHT DISTRIBUTION

DRAWN BY	SCALE	DATE	CHKD BY	SHEET
DLW	N/A	07-14-97	WHM	EQN-507B SHEET 1 OF 1



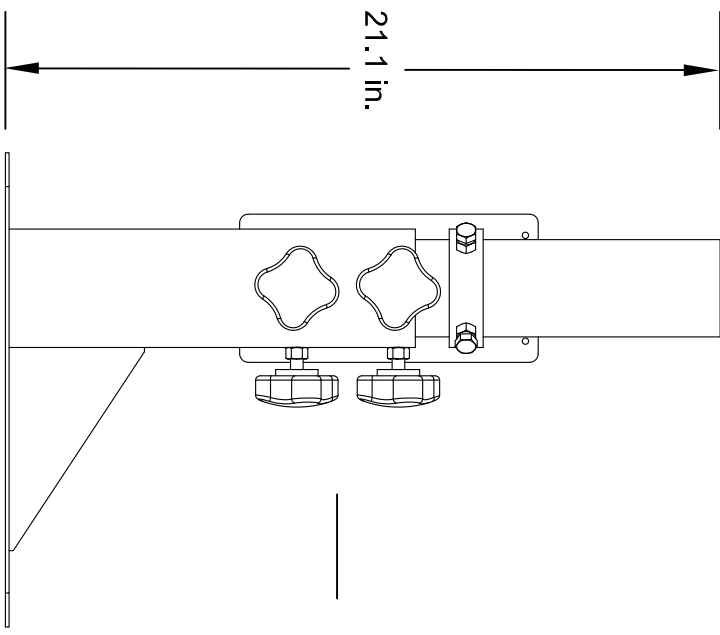
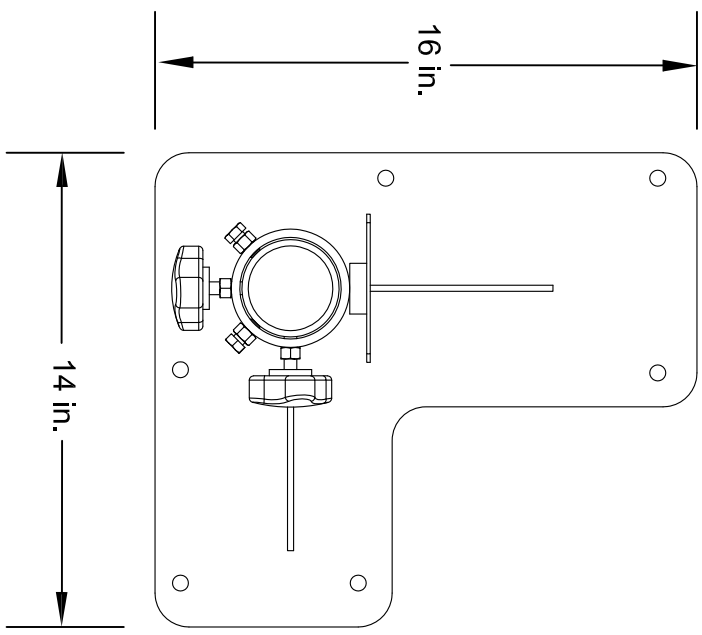
PA DEPARTMENT OF TRANSPORTATION

REVISIONS			DUMP TRUCK VALVE ENCLOSURE / TANK COMBO		
NO.	DATE	BY	DRAWN BY	SCALE	EQN-508
1			TOD	N/A	
2					
3					

DATE 11-03-09
 CHECKED BY DMA
 SHEET 1 OF 1

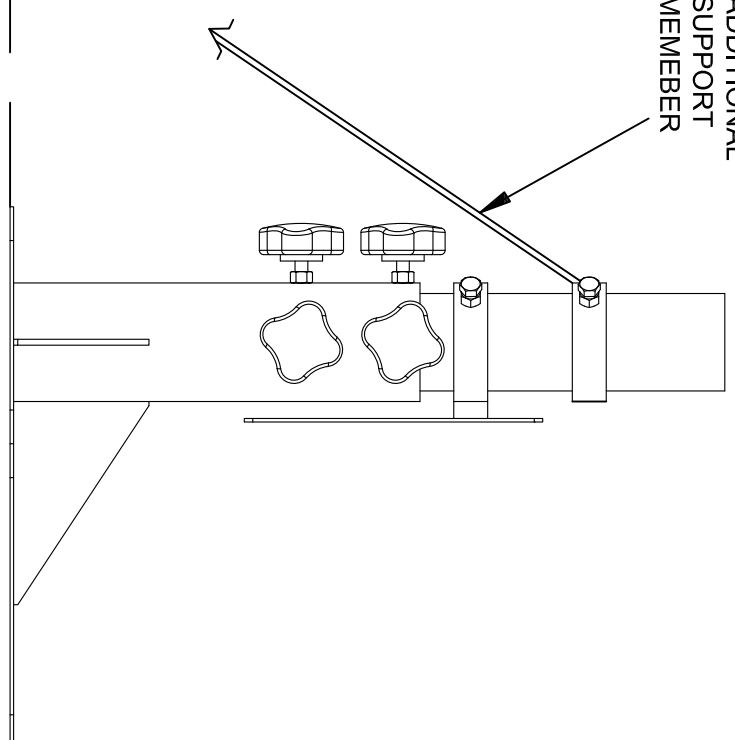
NOTE: SPREADER CONTROL BASE SHALL BE PROPERLY BRACED TO ELIMINATE FLOOR FLEX. ADDITIONAL SUPPORT BRACKET SHALL BE VENDORS RESPONSIBILITY.

ADDITIONAL SUPPORT BRACKETS SHALL BE USED TO ELIMINATE CONSOLE VIBRATION. SPREADER CONTROL BASE SHALL BE PROPERLY POSITIONED TO ELIMINATE FLOOR FLEX. CAB FLOOR SHALL BE REINFORCED TO ELIMINATE FLEX. ADDITIONAL SUPPORT BRACKETS AND REINFORCEMENTS SHALL BE VENDORS RESPONSIBILITY.

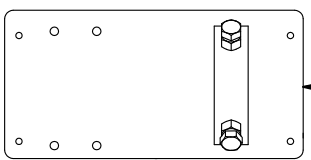


ADDITIONAL SUPPORT MEMBER

Floor



Radio Bracket



PA DEPARTMENT OF TRANSPORTATION

REVISIONS

DUMP TRUCK SPREADER CONTROL BASE WITH RADIO BRACKET

NO.	DATE	BY	SCALE	SHEET
1	8-01-18	KBD		
2				
3				

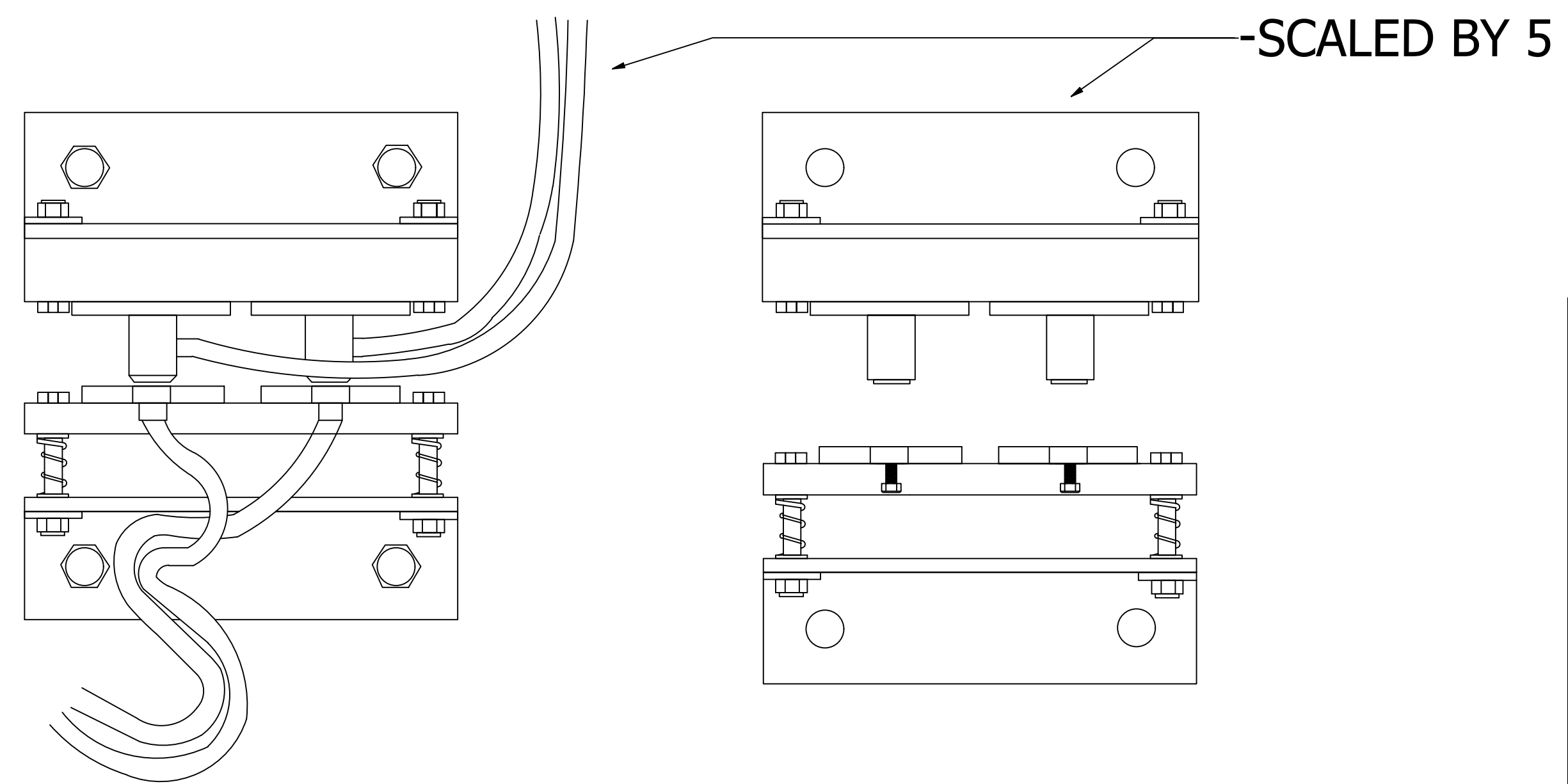
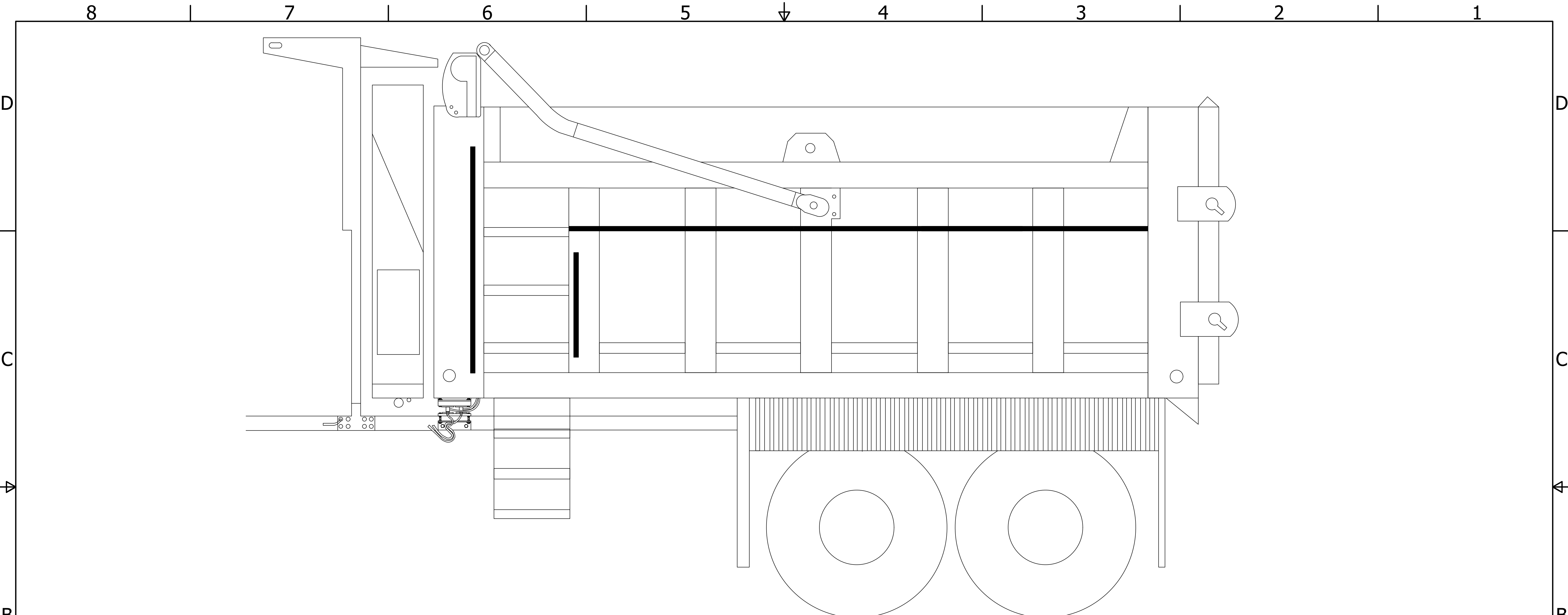
NO.	DATE	BY	SCALE	SHEET
1	8-01-18	KBD		
2				
3				

DRAWN BY: TOD

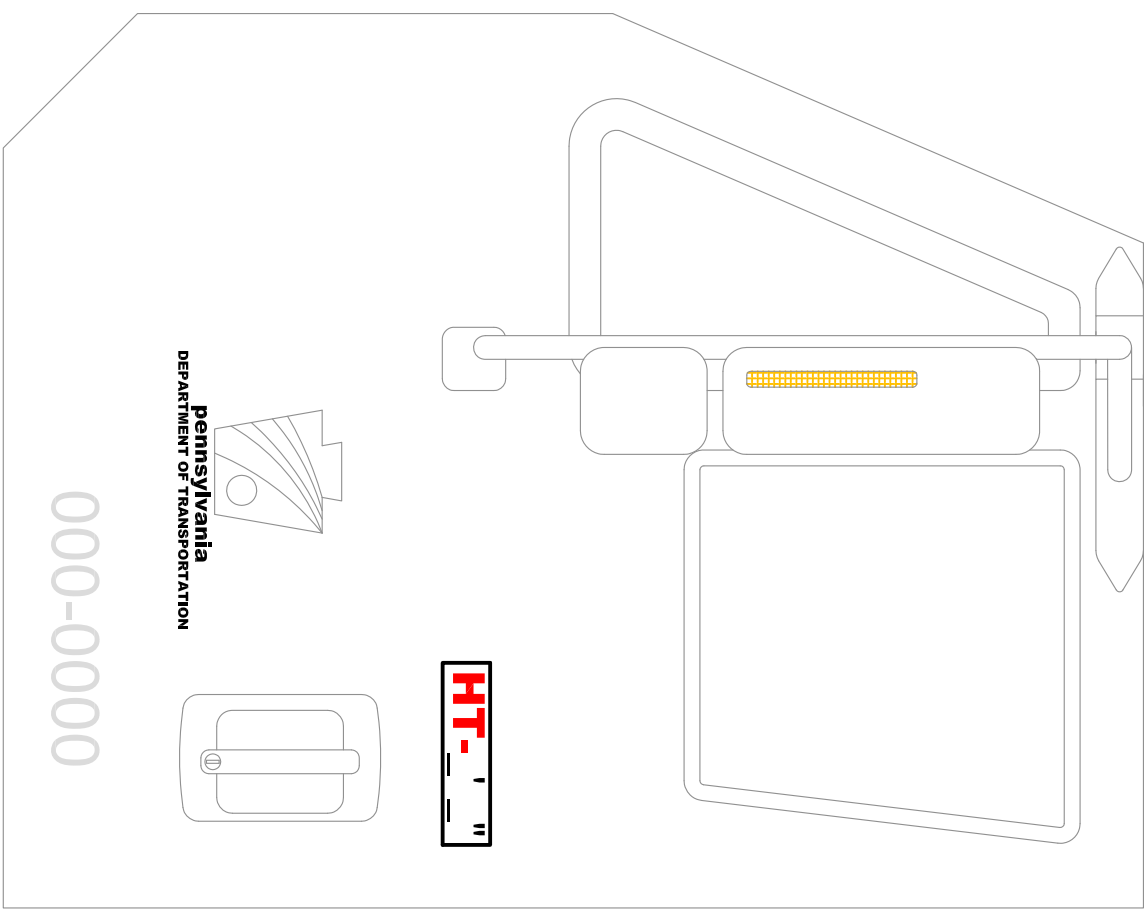
SCALE: N/A

DATE: 11-03-09

CHRG BY: DMA SHEET 1 OF 1

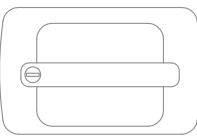
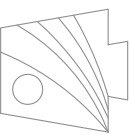


PA DEPARTMENT OF TRANSPORTATION					
REVISIONS			WIRELESS CONNECT AND TARP		
NO.	DATE	BY			
1	07-20-23	DVC			
2			DRAWN BY	SCALE	
3			JFM	N/A	EQN 550
			DATE	CHECKED BY	
			05-28-13	INT	SHEET 1 OF 1



000-0000

pennsylvania
DEPARTMENT OF TRANSPORTATION



THERE SHALL BE A PERMANENT DECAL, 2 INCH HIGH RED LETTERS ON WHITE BACKGROUND AFFIXED BY THE DRIVER SIDE DOOR HANDLE OR OPERATOR STATION STATING THE OVERALL MAXIMUM TRAVEL HEIGHT OF THE COMPLETED AND UNLOADED UNIT.

PA DEPARTMENT OF TRANSPORTATION

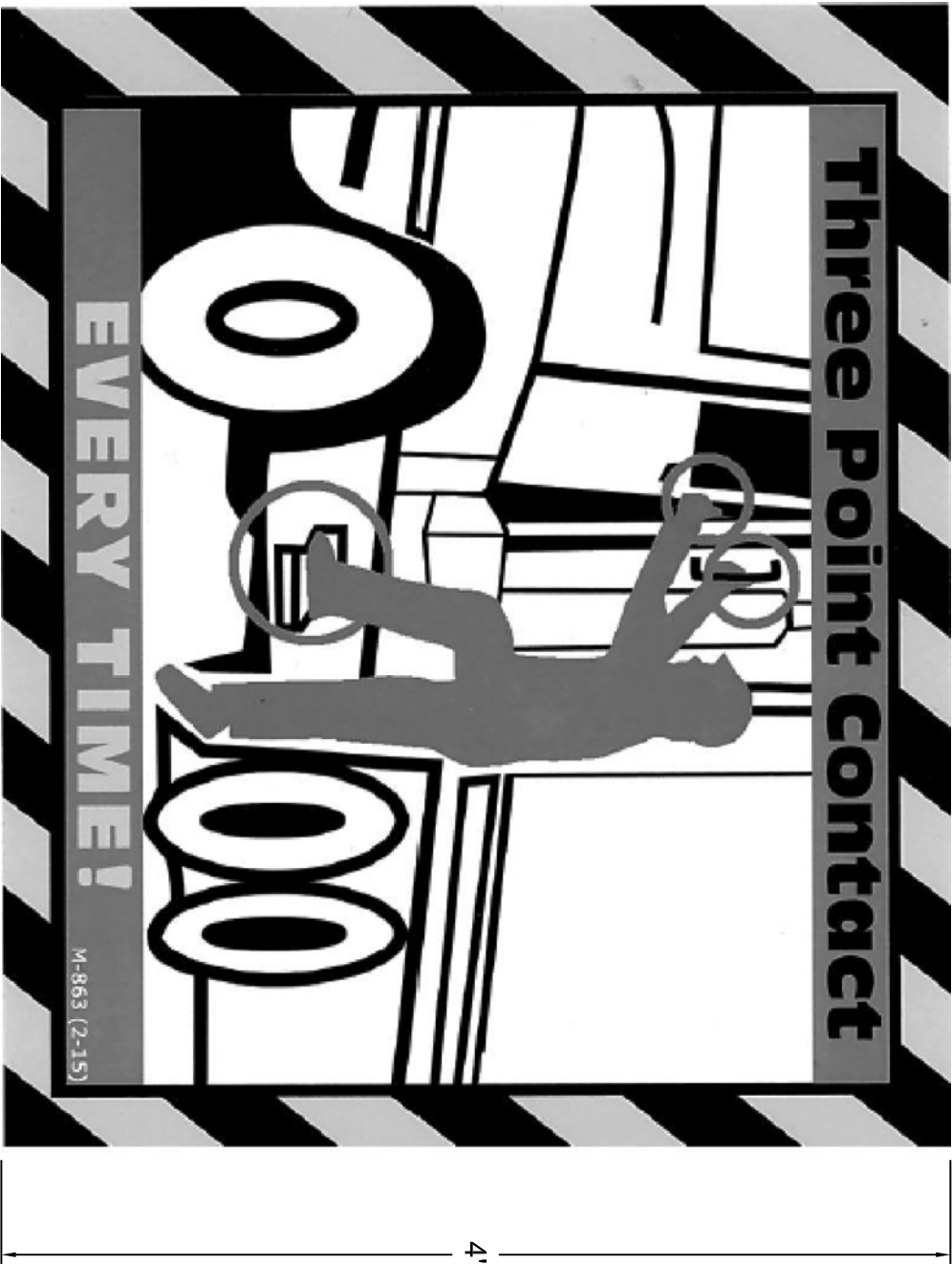
REVISIONS

NO.	DATE	BY
1	07-06-17	HMR
2	07-25-18	KBD
3		

MAX TRAVEL HEIGHT STICKER

DRAWN BY	JFM	Checked With	
DATE	05-29-13	DATE	
SCALE	N/A	SCALE	2
			SHEET 1 OF 1

EQN-552

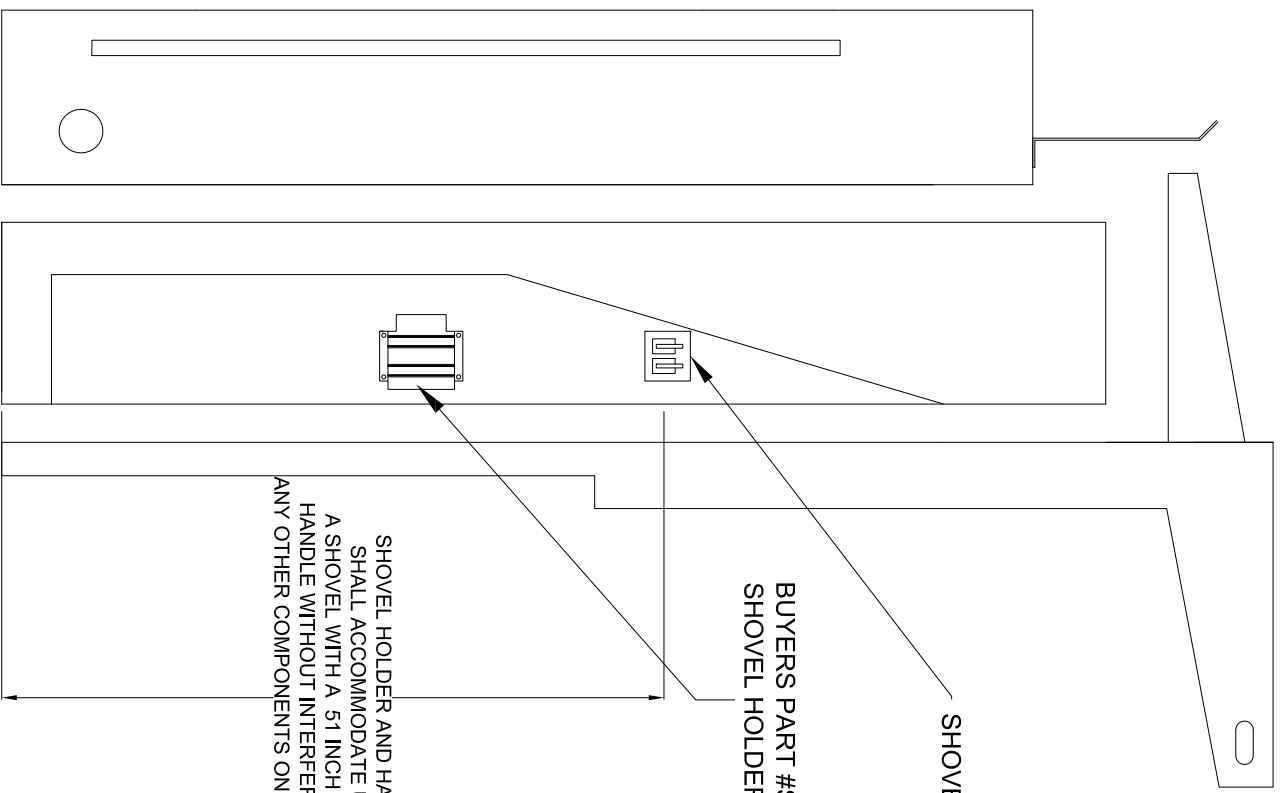


THERE SHALL BE A PERMANENT DECAL AFFIXED BY EACH ENTRY POINT. THE SAME PERMANENT DECAL SHALL BE AFFIXED BY EACH LADDER, PLATFORM OR STEP DESIGNED TO BE CLIMBED OR STEPPED ON. MEASUREMENTS OF DECAL ARE REFERENCED ABOVE.

PA DEPARTMENT OF TRANSPORTATION

REVISIONS		THREE POINTS OF CONTACT STICKER	
NO.	DATE	BY	
1	12-20-16	JJB	
2	07-06-17	HMR	
3			

DATE	03-23-15	SCALE	N/A	EQN-552-1
DRAWN BY	GAW	CHG'D BY	TOD	SHEET 1 OF 1

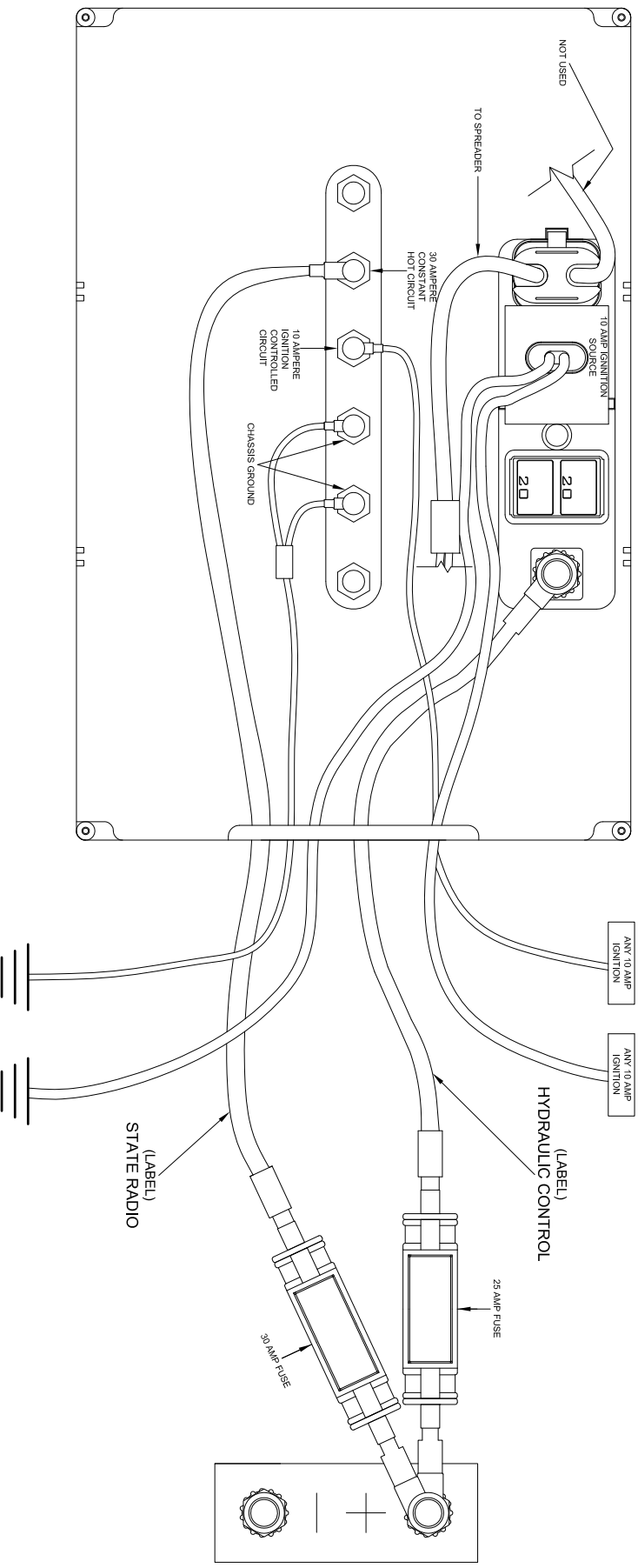


PA DEPARTMENT OF TRANSPORTATION

SHOVEL HOLDER

REVISIONS					
NO.	DATE	BY	SCALE		
1	00-00-00	INT			
2					
3					

DRAWN BY	JFM	SCALE	2.2	EQN-557
DATE	05-20-13	CHK'D BY	INT	SHEET 1 OF 1



NOTE:

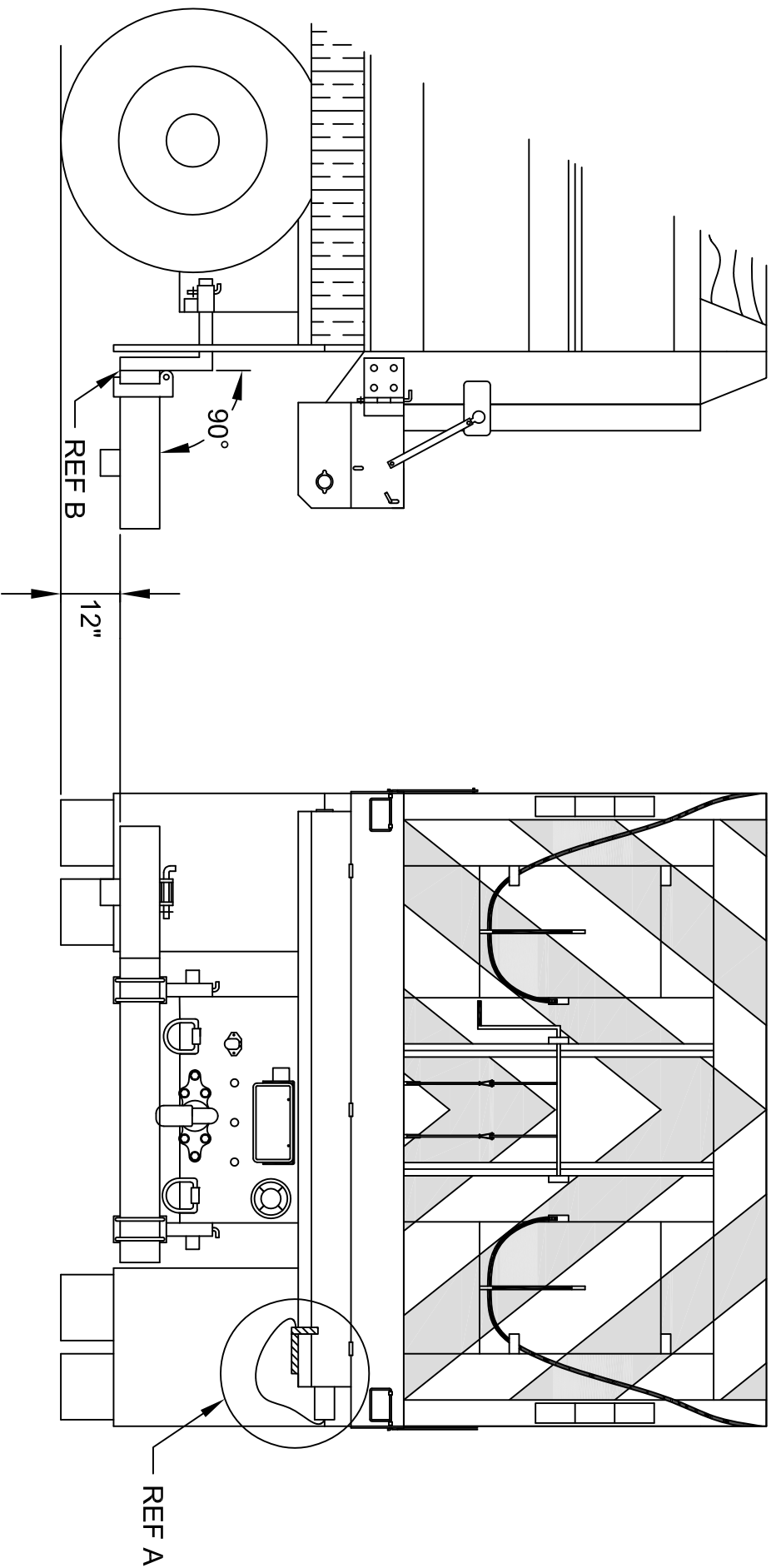
EACH CIRCUIT SHALL BE SUPPLIED INDIVIDUALLY, LABELED, PROPERLY SIZED, PROTECTED FROM WEATHER, AND SEALED TO BE WATERTIGHT.

PA DEPARTMENT OF TRANSPORTATION

POWER DISTRIBUTION BOX FOR STATE RADIO AND SPREADER CONTROLS

NO.	DATE	BY	REVISIONS
1	00-00-00	INT	
2			
3			

DATE	01-08-14	CHK'D BY	INT	SHEET	1 OF 1
DRAWN BY	JFM	SCALE	N/A	EQN-562	



MEASURED FROM GROUND TO BOTTOM OF SPINNER PLATE.
 (WHEN SPINNER IS MOUNTED AT LOWEST SETTING.
 REFERENCE SHEET 6)

NOTES:

- A. STANDARD OEM HYDRAULIC LOCK OUT MECHANISM.
- B. SPINNER MUST BE PERPENDICULAR TO BODY & AT LOWEST SETTING MUST BE LEVEL WITH VERTICAL SQUARE TUBE

PA DEPARTMENT OF TRANSPORTATION

REVISIONS

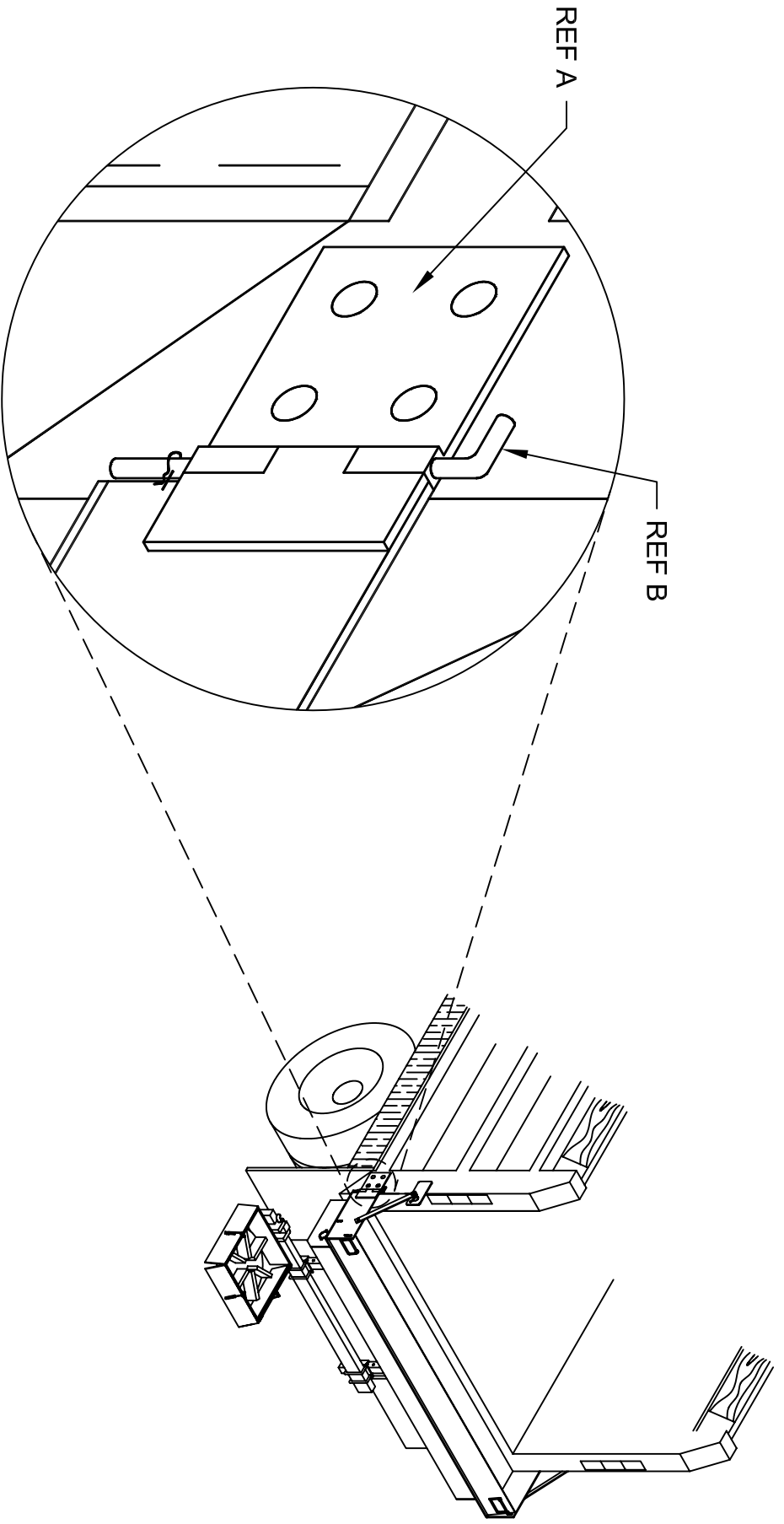
NO.	DATE	BY	DESCRIPTION
1	07-25-18	KBD	UNDER TAILGATE SPREADER WITH IOWA SPINNER
2	08-02-19	KBD	
3			

DRAWN BY JJB

Combined With EQN-3 & 3A & 9 & 9A & 10

DATE 01-09-98

CHG'D BY TSCHE EQN-3 & 3A & 9 & 9A & 10 SHEET 1 OF 14



NOTES:

- A. MOUNTING HARDWARE. TO RECEIVE BOTTOM CONTACT POINT OF SPREADER. REFERENCE EQN-3A.
- B. PIN WITH R CLIP. TO ALLOW QUICK DISCONNECT FROM TRUCK.

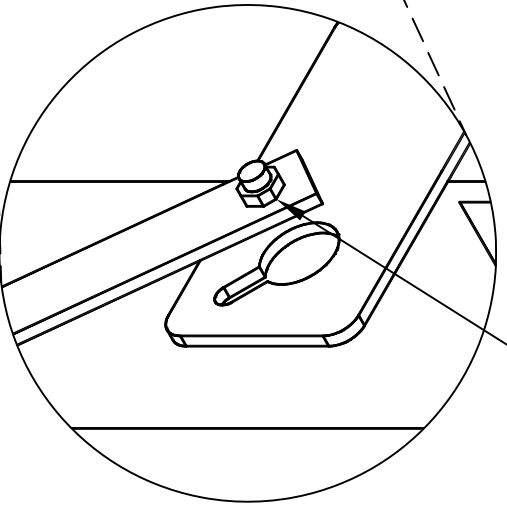
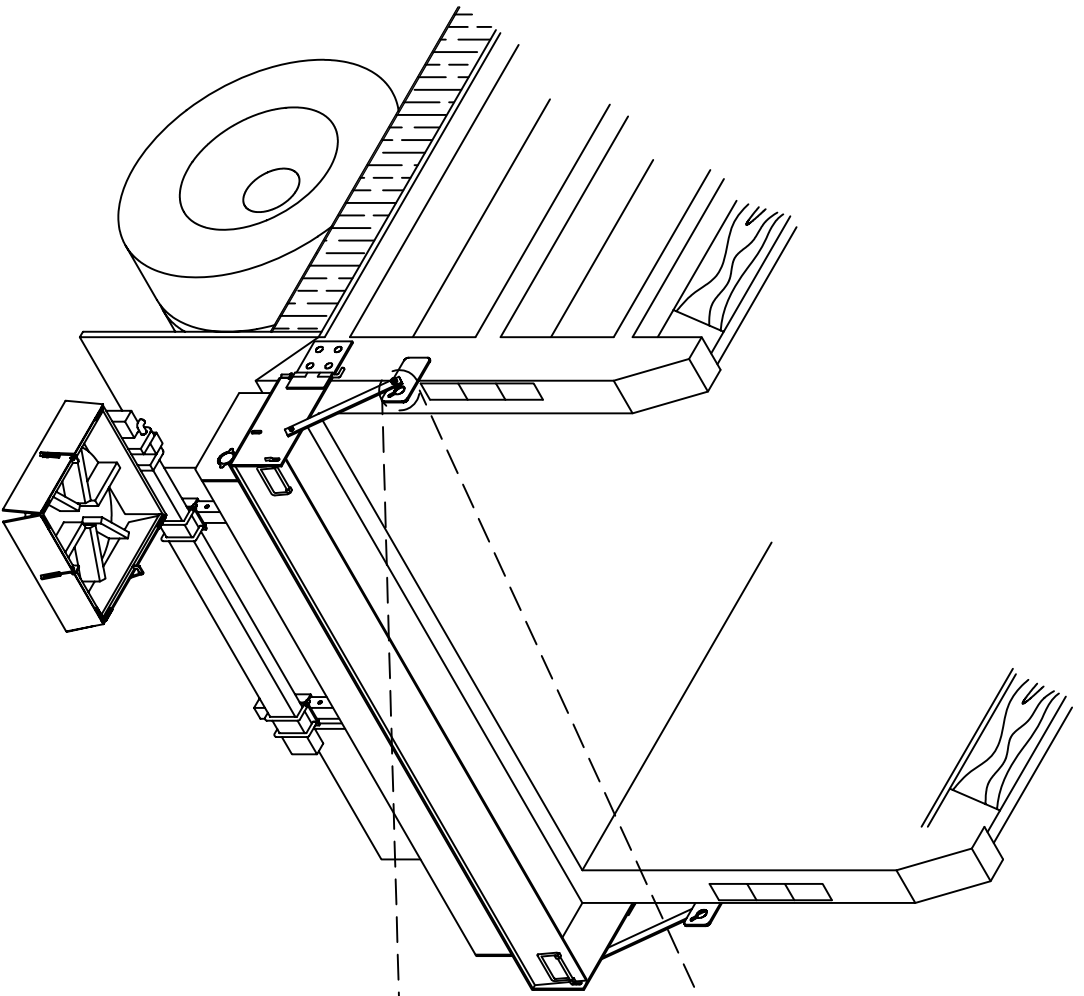
PA DEPARTMENT OF TRANSPORTATION

REVISIONS

NO.	DATE	BY	DESCRIPTION
1	07-25-18	KBD	
2	08-02-19	KBD	
3			

UNDER TAILGATE SPREADER WITH IOWA SPINNER

DRAWN BY	JJB	Combined With	EQN-568
DATE	01-09-98	CHG'D BY	EQN-3 & 3A & 9 & 9A & 10
		SCALE	N/A
			N/A
			SHEET 2 OF 14



NOTES:

- A. WELDED PLATE WITH HOLE. SHALL BE BOLTED. TO RECEIVE TOP CONTACT POINT OF SPREADER. REFERENCE EQN-3A.

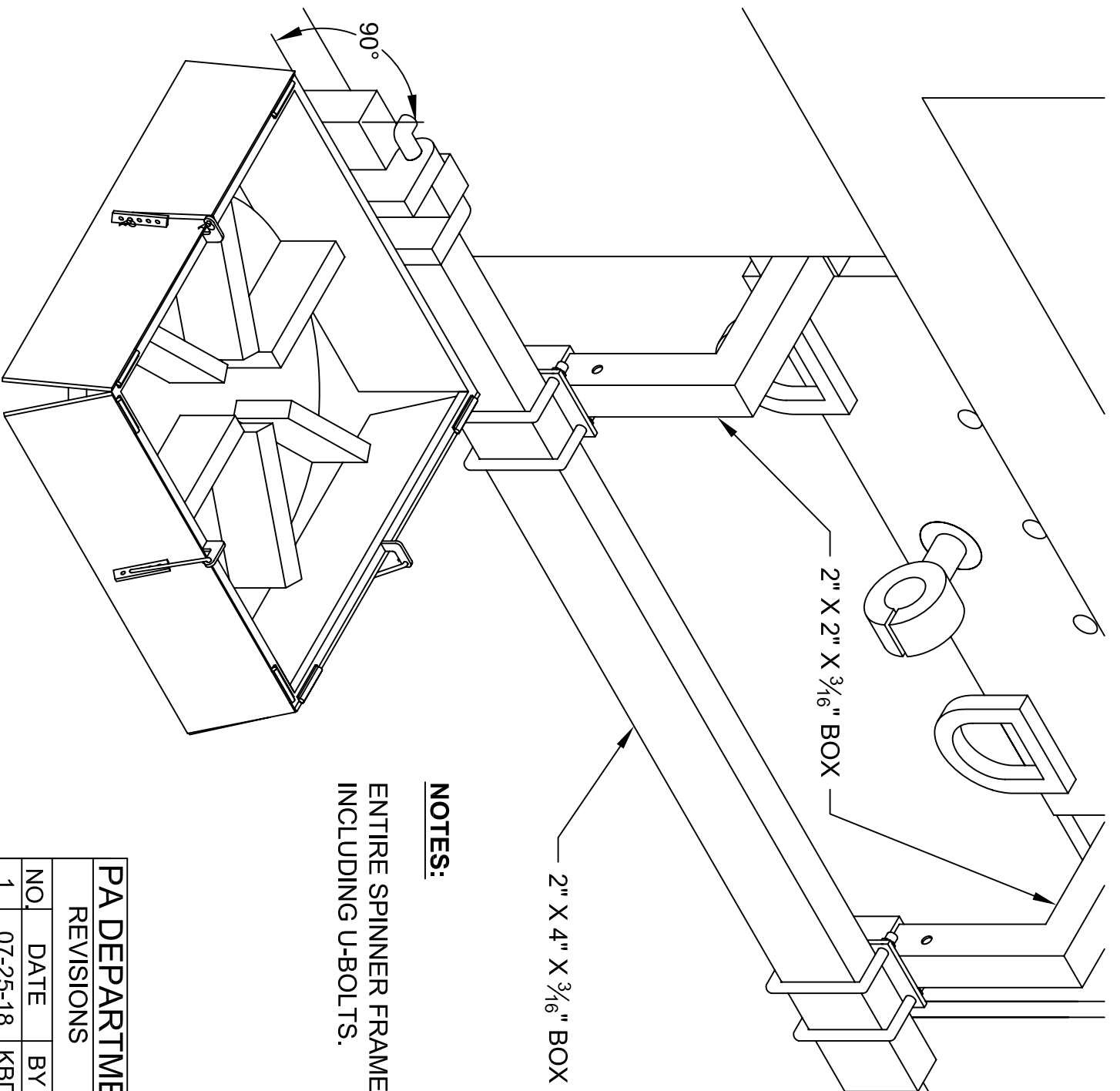
PA DEPARTMENT OF TRANSPORTATION

REVISIONS

NO.	DATE	BY	DESCRIPTION
1	07-25-18	KBD	UNDER TAILGATE SPREADER WITH IOWA SPINNER
2	08-02-19	KBD	
3			

UNDER TAILGATE SPREADER WITH IOWA SPINNER

DRAWN BY	JJB	Checked With	EQN-3 & 3A & 9 & 9A & 10	EQN-568
DATE	01-09-98	CHG'D BY	N/A	SHEET 3 OF 14



2" X 4" X 3/16" BOX

2" X 2" X 3/16" BOX

NOTES:

ENTIRE SPINNER FRAME SHALL BE STAINLESS STEEL INCLUDING U-BOLTS.

PA DEPARTMENT OF TRANSPORTATION

REVISIONS

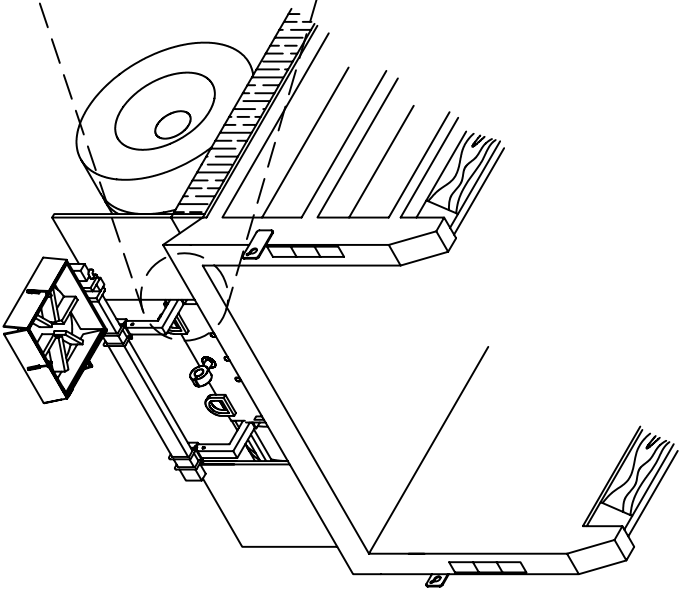
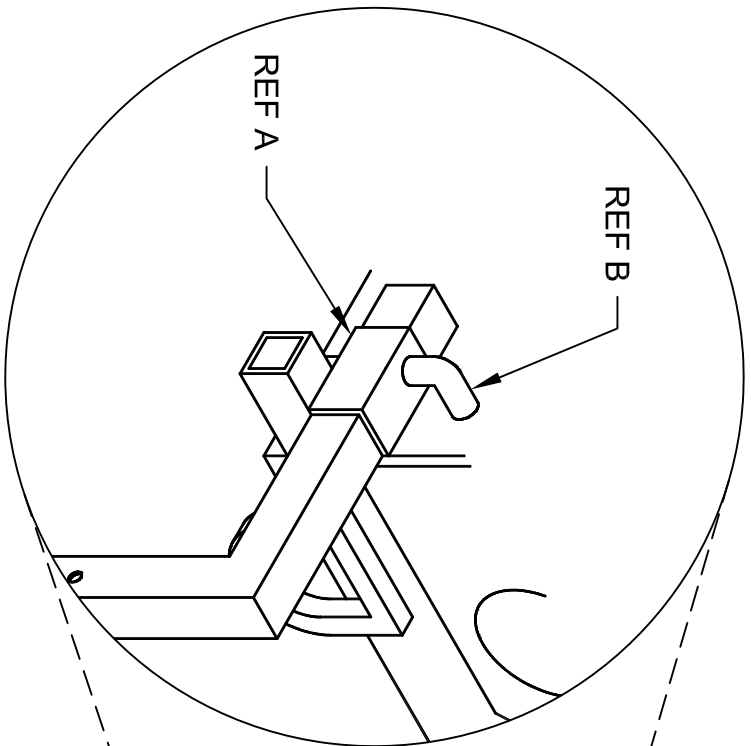
NO.	DATE	BY	DESCRIPTION
1	07-25-18	KBD	UNDER TAILGATE SPREADER WITH IOWA SPINNER
2	08-02-19	KBD	
3			

UNDER TAILGATE SPREADER WITH IOWA SPINNER

DRAWN BY JJB

DATE 01-09-98

Combined With EQN-3 & 3A & 8 & 9A & 10
 CHECKED BY TSCHE
 DATE N/A N/A SHEET 4 OF 14



NOTES:

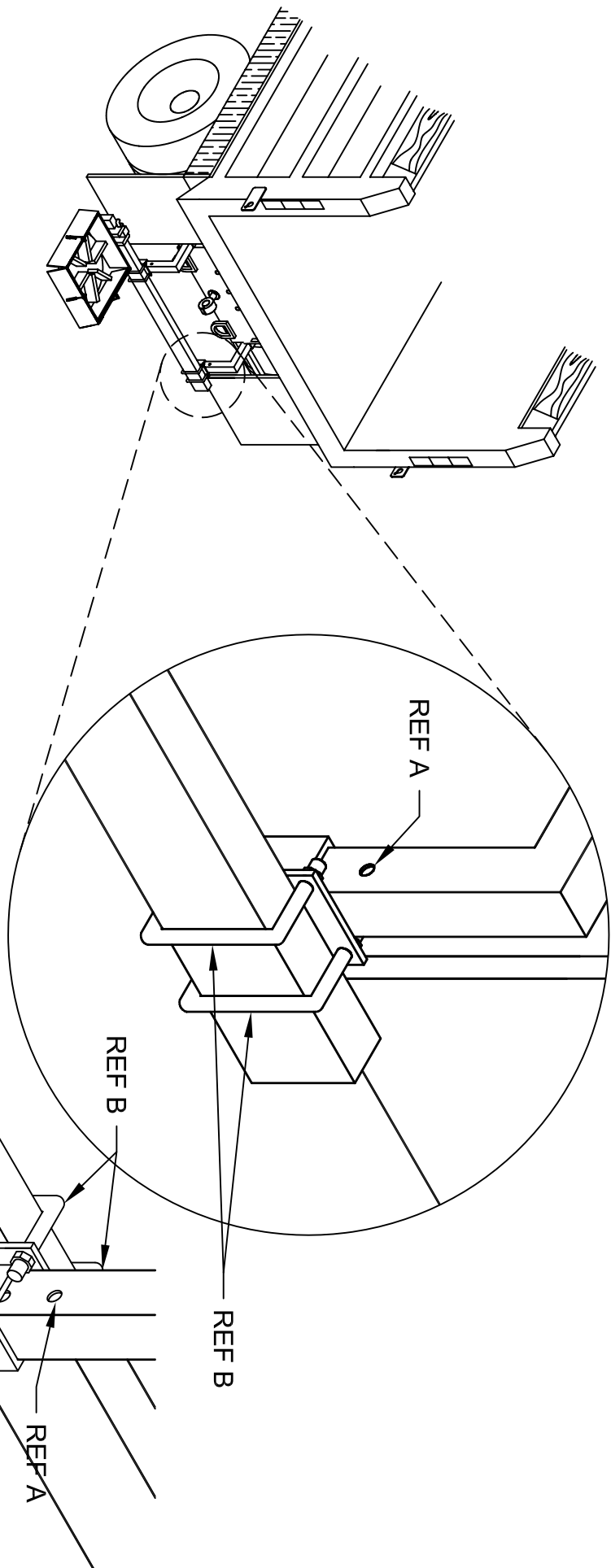
- A. WELDED 2 INCH RECEIVER. SHALL BE MOUNTED TO NOT INTERFERE WITH ICC BUMPER.
- B. PIN WITH R CLIP. TO SECURE SPINNER MOUNT TO CHASSIS.

PA DEPARTMENT OF TRANSPORTATION

REVISIONS

NO.	DATE	BY	DRAWN BY		
1	07-25-18	KBD	JJB		
2	08-02-19	KBD	Combined With EQM-3 & 3A & 9 & 9A & 10		
3			DATE	CHG'D BY	TRK'D
			01-09-98	N/A	N/A

UNDER TAILGATE SPREADER WITH IOWA SPINNER



NOTES:

- A. VERTICAL ADJUSTMENT HOLES. 2 INCH SPACING ON CENTER.
- B. U BOLTS. TO ALLOW HORIZONTAL ADJUSTMENT OF SPINNER.
- C. PIN WITH R CLIP. TO ALLOW VERTICAL ADJUSTMENT OF SPINNER.

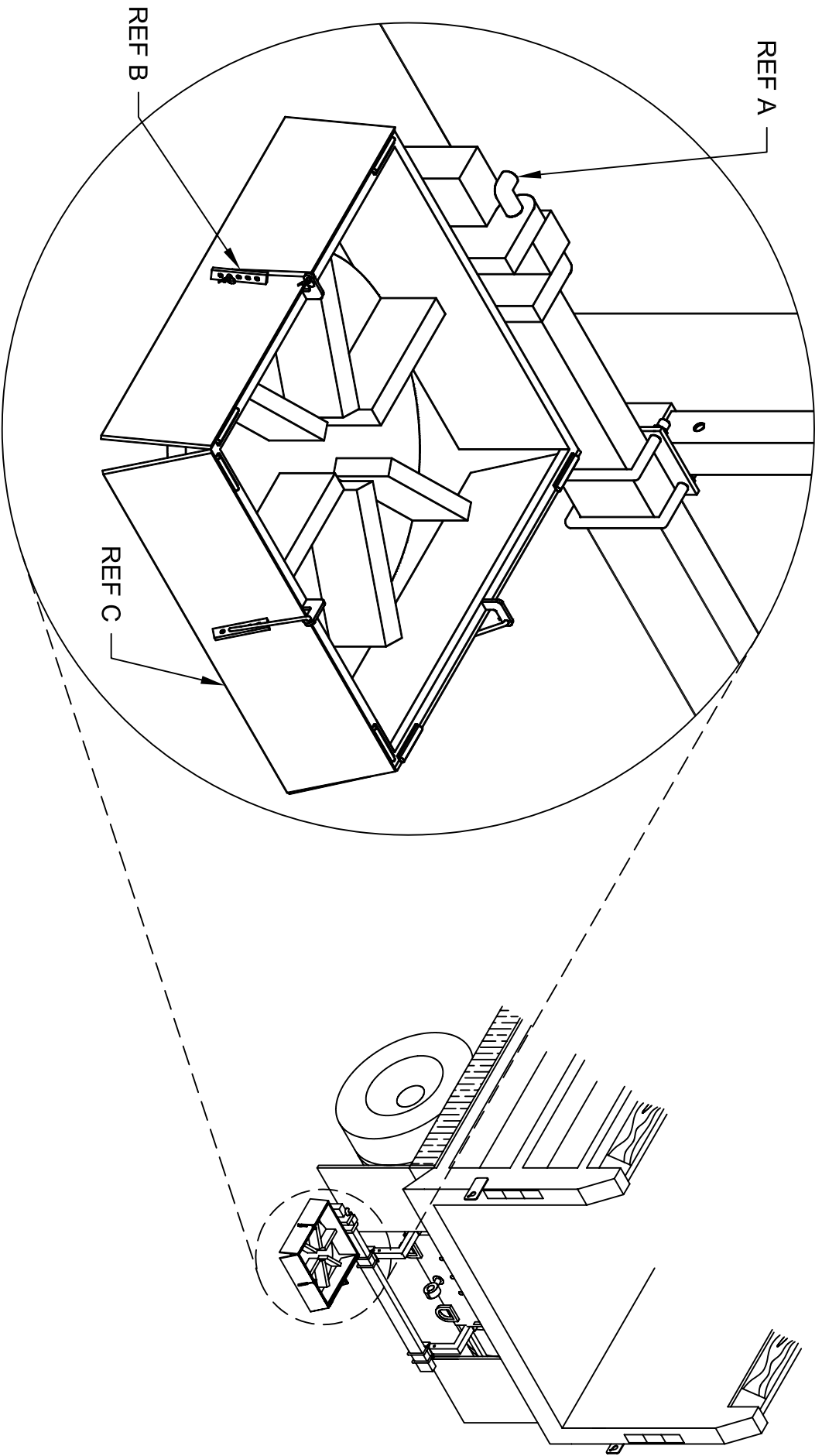
PA DEPARTMENT OF TRANSPORTATION

REVISIONS

NO.	DATE	BY	DESCRIPTION
1	07-25-18	KBD	
2	08-02-19	KBD	
3			

UNDER TAILGATE SPREADER WITH IOWA SPINNER

DRAWN BY	JJB	Checked With	EQN-568
DATE	01-09-98	EQN-3 & 3A & 9 & 9A & 10	
		CHG BY	
		N/A	
		N/A	
			SHEET 6 OF 14



NOTES:

- A. PINNED MECHANISM WITH R CLIP. TO ALLOW VERTICAL MOVEMENT OF SPINNER IF CONTACTED BY THE GROUND.
- B. FLAP BRACKET. TO ALLOW HEIGHT ADJUSTMENT OF SPINNER FLAPS.
- C. IOWA STYLE SPINNER FLAPS. TO ALLOW DIRECTIONAL SPREADING OF MATERIAL.

PA DEPARTMENT OF TRANSPORTATION

REVISIONS

NO. DATE BY

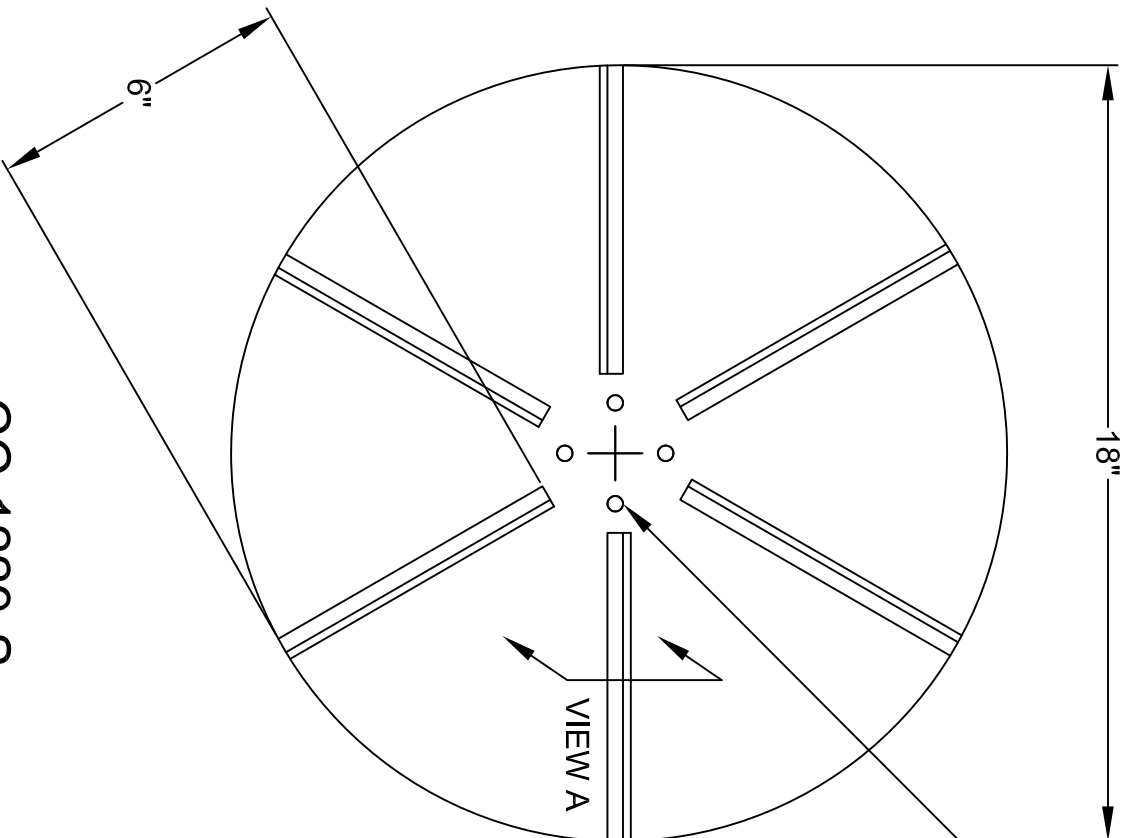
1 07-25-18 KBD

2 08-02-19 KBD

3

UNDER TAILGATE SPREADER WITH IOWA SPINNER

DRAWN BY	JJB	Combined With	EQN-568
DATE	01-09-98	CHG'D BY	EQA-3 & 3A & 9 & 9A & 10
		SCALE	N/A
			SHEET 7 OF 14



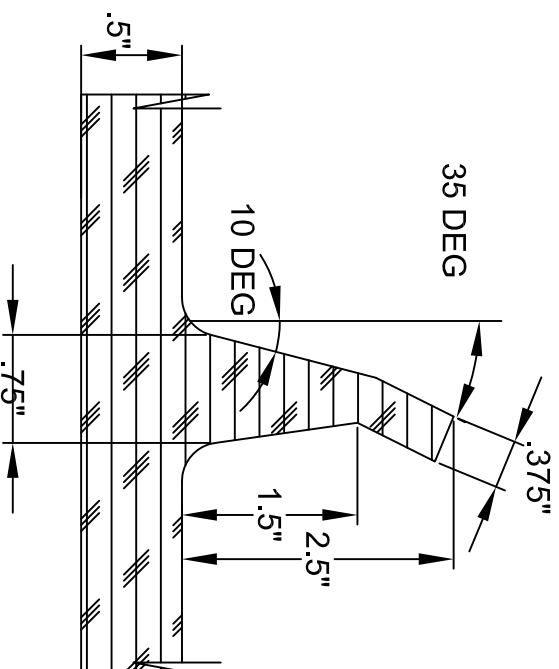
CC-1229-S

C.U.E. Inc
 11 Leonberg Township
 16066 U.S.A.

.375 Dia. HOLE REINFORCED
 WITH STEEL WASHERS (4)
 PLACES ON 4" B.C.

NOTES:

1. MATERIAL 80 DURO. URETHANE
2. WEIGHT 8.1 lbs. PER PIECE
3. ROTATION: COUNTER CLOCKWISE
4. ALL DIMENSIONS IN INCHES.

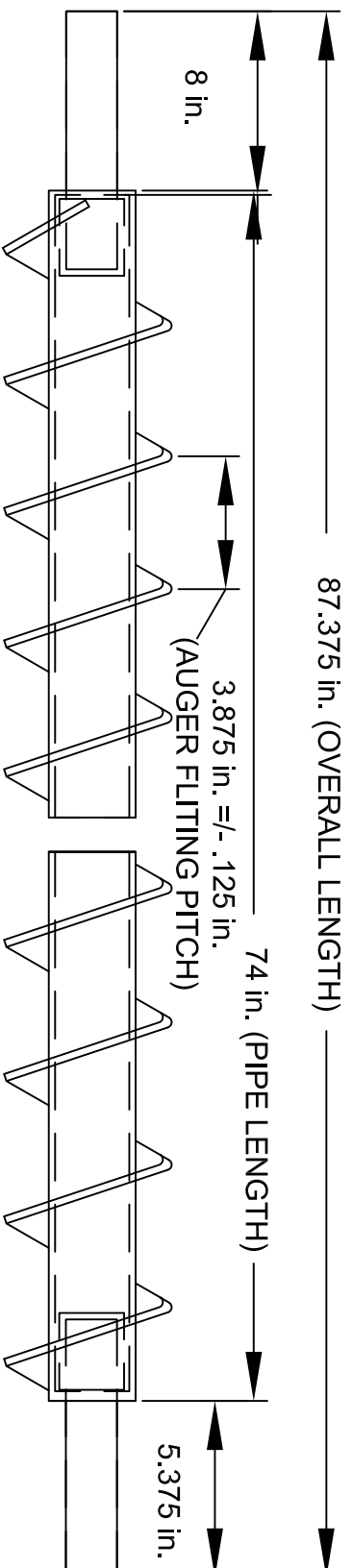


PA DEPARTMENT OF TRANSPORTATION

REVISIONS

NO.	DATE	BY	DRAWN BY	DATE	CHK'D BY	Scale	EQN-568
1	05-23-07	CJW	JJB	01-09-98	N/A	N/A	EQN-568
2	07-25-18	KBD	JJB	01-09-98	N/A	N/A	EQN-568
3	08-02-19	KBD	JJB	01-09-98	N/A	N/A	EQN-568

SPINNER / SPREADER TAILGATE
 URETHANE



HELICOID FLIGHT (RIGHT HAND)
SINGLE CONTINUOUS SCREW TYPE
(BAR SIZE, BEFORE ROLLING, TO BE
SUCH THAT FITTING O.D. IS AS SHOWN
IN END VIEW AT RIGHT, AND OUTER
EDGE THICKNESS IS AS SHOWN IN
FLITTING THICKNESS SPECIFICATION)

VIEW SHOWING COMPLETE
AUGER WELDMENT

2 in. (2.375 O.D.)
SCHEDULE 80 (.20 in. WALL)
CARBON STEEL PIPE
(PIPE SIZE E.R.W. TUBING ACCEPTABLE)

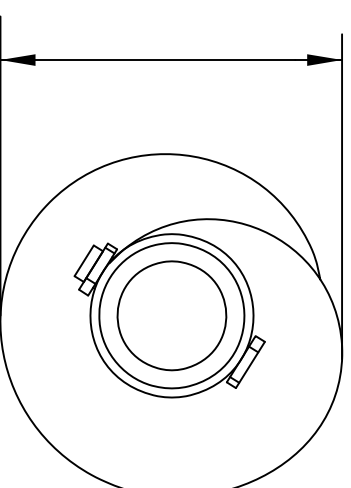
87.375 in. (OVERALL LENGTH)
74 in. (PIPE LENGTH)
3.875 in. +/- .125 in.
(AUGER FLITTING PITCH)
8 in.

SPECIFICATION NOTES

1. PIPE PORTIONED WORTH (WITH WELDED FITTING) TO BE STRAIGHT TO GIVE MAXIMUM OF .20 IN. TOTAL RUNOUT
2. BOTH STUB SHAFT CENTERLINES TO LIE ON PIPE CENTERLINE TO GIVE MAXIMUM OF .20 IN. TOTAL RUNOUT
3. ALL SURFACES OF SLEEVE, SHAFT, AND OTHER PIPE WHICH MAKE CONTACT WITH EACH OTHER TO BE COATED WITH ANTI-SEIZE COMPOUND
4. SHAFT IS REMOVED, AND NOT USED, WHEN AUGER IS USED IN A DIRECT DRIVE APPLICATION

DO NOT SCALE DRAWING TOLERANCES (UNLESS OTHERWISE NOTED)	
FLAME CUTTING, NIBBLING & WELDING	+/- .060
SHEARING & FORMING	+/- .030
PUNCHING	+/- .020
HOLE DIAMETERS	+ .015/- .005
ANGLES	+/- 2 DEG
DECIMAL MACHINING	0.00- +/- .020
	0.000- +/- .005

IMPLIED TOLERANCES DO NOT APPLY TO REFERENCE DIMENSIONS



PA DEPARTMENT OF TRANSPORTATION

REVISIONS

Penndot SPREADER AUGER

NO.	DATE	BY	DRAWN BY	DATE
1	9-20-07	BAG	JJB	01-09-98
2	7-25-18	KBD		
3	08-02-19	KBD		

DETAIL (S/S & RUBBER THROUGH)			EQU-568	
CHECKED BY: EDW & SA & SA 6/10			SHEET 9 OF 14	

DRIVE BEARINGS:

THE FOLLOWING SHALL INDICATE MINIMUM REQUIREMENTS INCLUDING ALL GENUINE PARTS, ACCESSORIES, EQUIPMENT, AND SAFETY FEATURES CONSIDERED STANDARD, WHETHER MENTIONED HEREIN OR NOT. THE VEHICLE SHALL COMPLY WITH ALL CURRENT APPLICABLE FEDERAL SAFETY STANDARDS AND OSHA REQUIREMENTS.

THE PURPOSE OF THESE SPECIFICATIONS IS TO DESCRIBE A BEARING CAPABLE OF BEING USED ON OUR TAILGATE SPREADERS.

UNLESS OTHERWISE SPECIFIED, EACH UNIT SHALL INCLUDE ALL SPECIFIED PARTS, MADE AVAILABLE FOR THE INDICATED MODEL BY THE EQUIPMENT MANUFACTURER. SPECIFIED ITEMS NOT AVAILABLE THROUGH THE EQUIPMENT MANUFACTURER SHALL CONFORM TO THE BEST QUALITY STANDARDS KNOWN TO THAT PARTICULAR INDUSTRY.

EACH UNIT SHALL BE CLEAN, LUBRICATED, AND SERVICED READY FOR IMMEDIATE OPERATION.

PERFORMANCE:

THE PROPOSED UNIT SHALL BE IDENTICAL WITH THE STANDARD OR IMPROVED MODEL AND A CURRENT PRODUCTION UNIT IN USE BY THE INDUSTRY FOR THE PAST TWELVE MONTHS PRECEDING THIS BID OPENING. IT SHALL BE THE RESPONSIBILITY OF THE BIDDER TO ASSURE THAT THE PROPOSED EQUIPMENT CONFORMS TO THE SPECIFICATIONS AND PERFORMS SATISFACTORILY ACCORDING TO THESE SPECIFICATIONS.

GRADE:

REFERENCE:AMERICAN FRICTION BEARING MANUFACTURERS ASSOCIATION #1, PRECISION

TYPE:

SELF-ALIGNING, ANTI-FRICTION, THRUST, RE-LUBE TYPE.

MOUNTING:

2 BOLT UNIT FLANGED UNIT TYPE. SEE DRAWING.

PA DEPARTMENT OF TRANSPORTATION

REVISIONS

NO.	DATE	BY
-----	------	----

1	4-4-07	KNH
---	--------	-----

2	07-25-18	KBD
---	----------	-----

3	08-02-19	KBD
---	----------	-----

**SPREADER BEARING
INFORMATION**

DRAWN BY: **JJB**

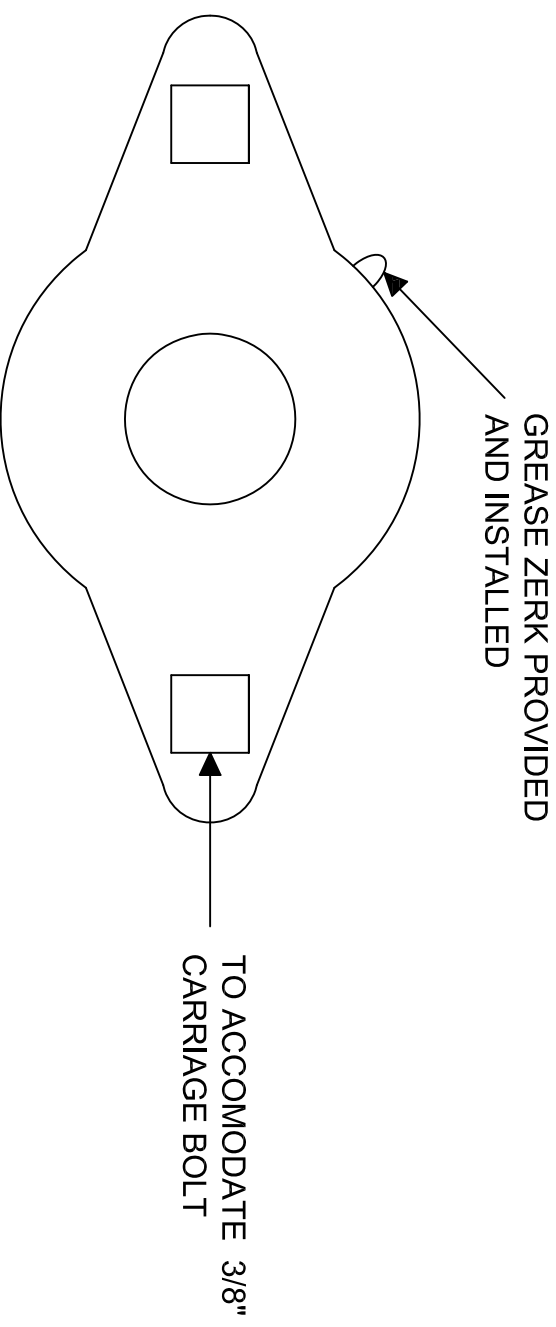
DATE: **01-09-98**

Checked with
EQN-568 & 5A & 5A 5/0

Scale
N/A

EQN-568
SHEET 10 OF 14

MOUNTINGS:
 2 BOLT (SQUARE HOLES) FLANGED UNIT TYPE. SEE DRAWING.



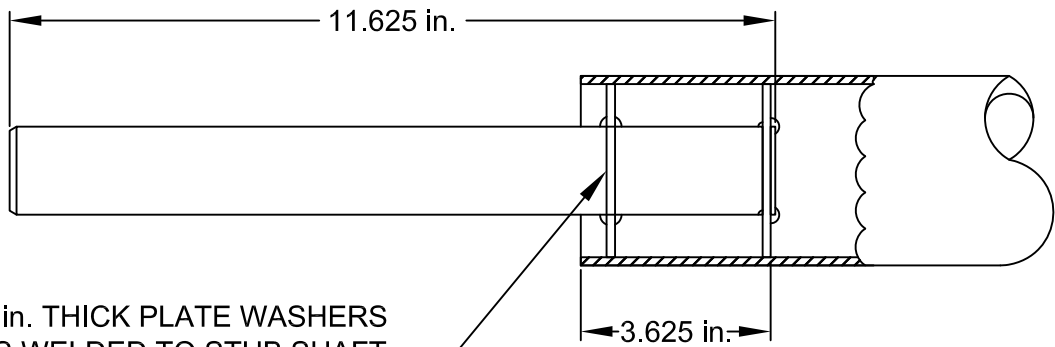
SHAFT DIAMETER: 1-1/4"

LOCKING: RETAINING COLLAR SHALL BE ECCENTRIC WITH SET SCREW.

HOUSING: CASE, DUCTILE OR MALLEABLE IRON.

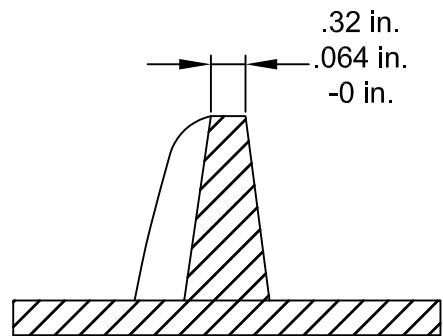
REFERENCE: LINK BELT FXWG 2E2ou, FAFNIR GVFTDS, ROBERTS FBPZ-20L, BROWNING MODEL #VF2E-120SM, SST MODEL #SAFG 206-20G, IPTCI MODEL SALF 206-20

PA DEPARTMENT OF TRANSPORTATION			
REVISIONS		SPREADER BEARING INFORMATION	
NO.	DATE	BY	
1	4-4-07	KNH	
2	07-25-18	KBD	<small>DRAWN BY</small> JJB <small>Checked With</small> <small>EQN-5 3A & 3A & 3A 3/10</small>
3	08-02-19	KBD	<small>DATE</small> 01-09-98 <small>CHKD BY</small> N/A <small>Scale</small> N/A <small>EQN-568</small>
			SHEET 11 OF 14



.125 in. THICK PLATE WASHERS
CONTINUOUS WELDED TO STUB SHAFT
AND AUGER PIPE

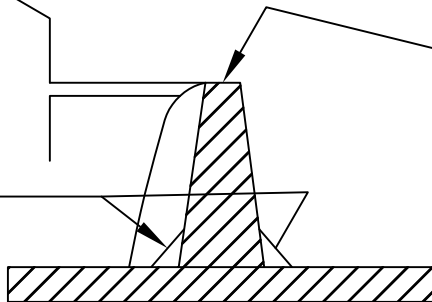
WASHERS TO FIT I.D. OF PIPE WITH
CLOSE SLIDING FIT SO NO FLEXING
OF SHAFT EXISTS AFTER FINAL WELDING



**FLITING THICKNESS SPECIFICATION
(BEFORE HARDSURFACING)**

.125 in. (MINIMUM)
HARDSURFACE

CONTINUOUS WELD
BOTH SIDES OF
FLITING



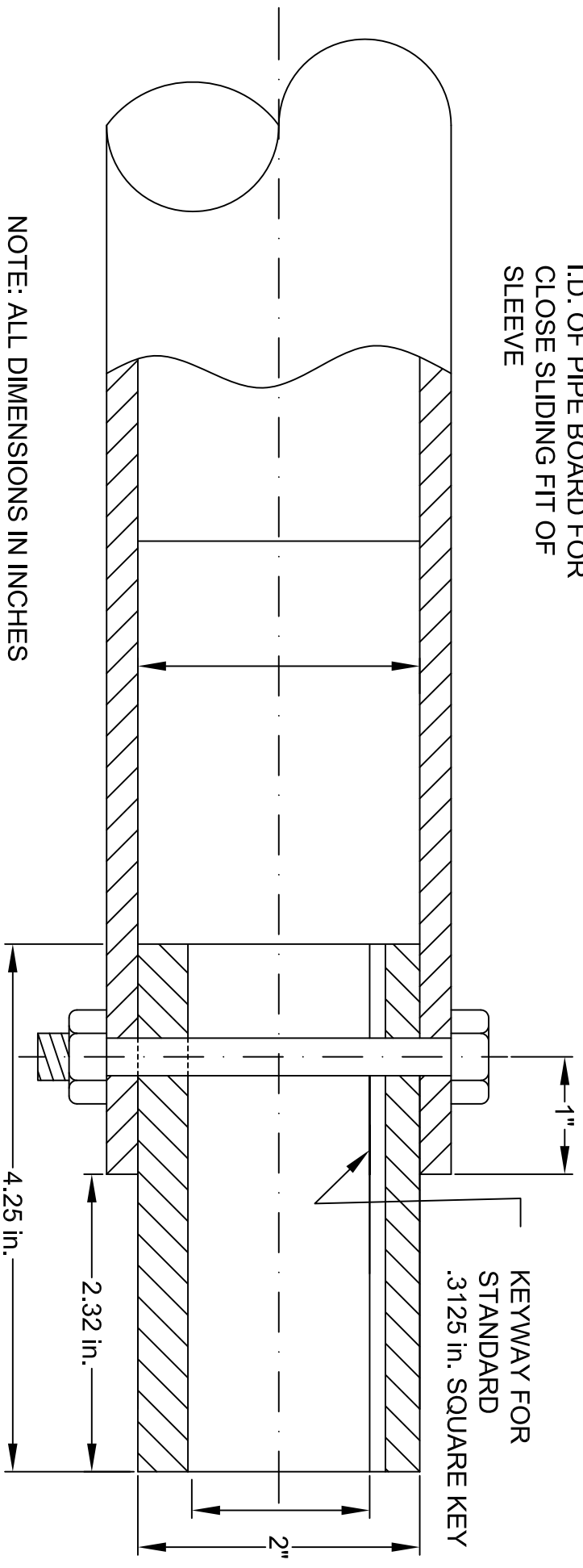
OUTER FLITE PERIPHERY CONTINUOUSLY
HARDSURFACED WITH ABRASIVE RESISTANCE
WELDING ROD (OR WIRE) EQUIVALENT TO
STUDY 121 (ROCKWELL HARDNESS C-44),
AND TO BE FULL WIDTH OF FLITING
THICKNESS AT OUTEREDGE

WELDING AND HARDSURFACE SPECIFICATION

PA DEPARTMENT OF TRANSPORTATION					
REVISIONS			UNDER TAILGATE SPREADER WITH IOWA SPINNER		
NO.	DATE	BY	DRAWN BY	Combined With	
1	05-28-02	DWG		EQN-3 & 3A & 9 & 9A & 10	EQN-568
2	09-20-07	BAG	JJB		
3	08-02-19	KBD	01-09-98	CHK'D BY N/A	Scale N/A SHEET 12 OF 14

VIEW SHOWING DRIVE, STAINLESS AND RUBBER THROUGH SPREADERS

I.D. OF PIPE BOARD FOR
CLOSE SLIDING FIT OF
SLEEVE

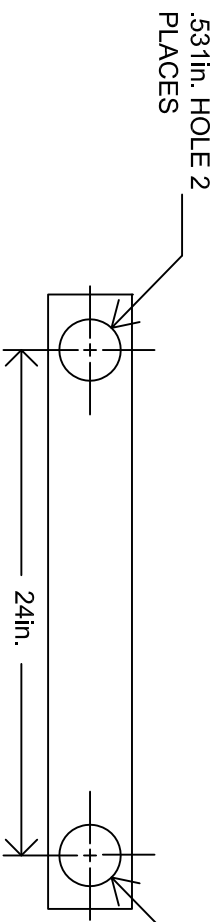
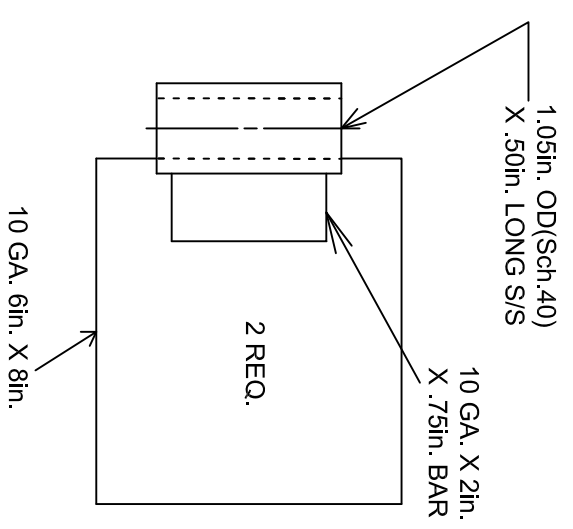
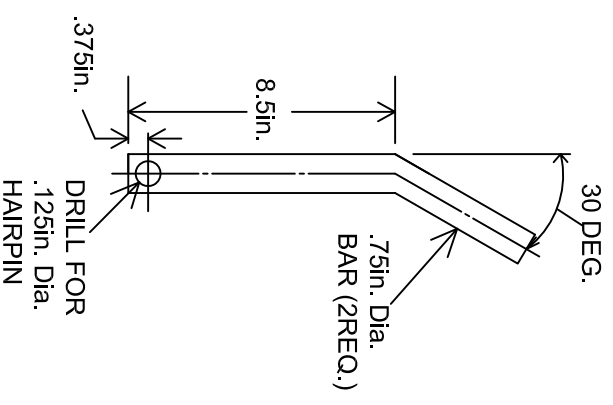
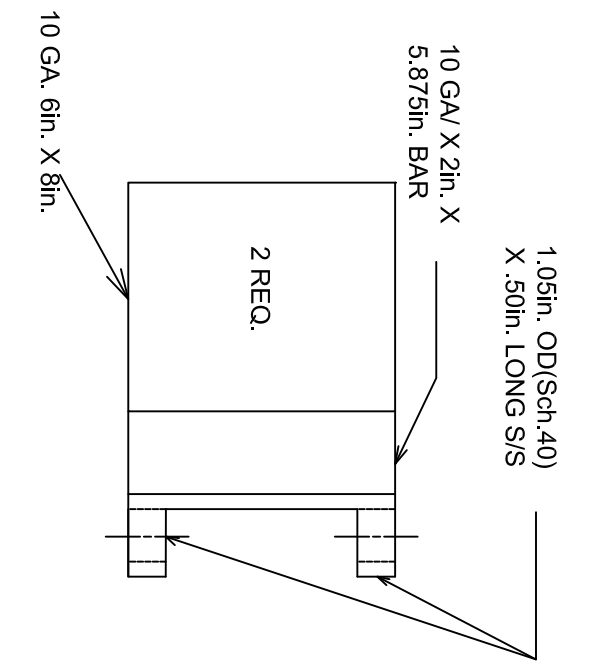


NOTE: ALL DIMENSIONS IN INCHES

1.25 in. Dia BORE
THROUGH (TO ACCEPT
HYDRAULIC MOTOR SHAFT AND AUGER
STUB SHAFT INTERCHANGEABLY)

SPREADER TAILGATE

PA DEPARTMENT OF TRANSPORTATION			
REVISIONS		AUGER DRIVE SLEEVE INSTRUCTION	
NO.	DATE	BY	DRAWN BY
1	10-02-06	CJW	JJB
2	07-25-18	KBD	Combined with EQN-5 & 3A & 9 & 3A & 10
3	08-02-19	KBD	DATE 01-09-98

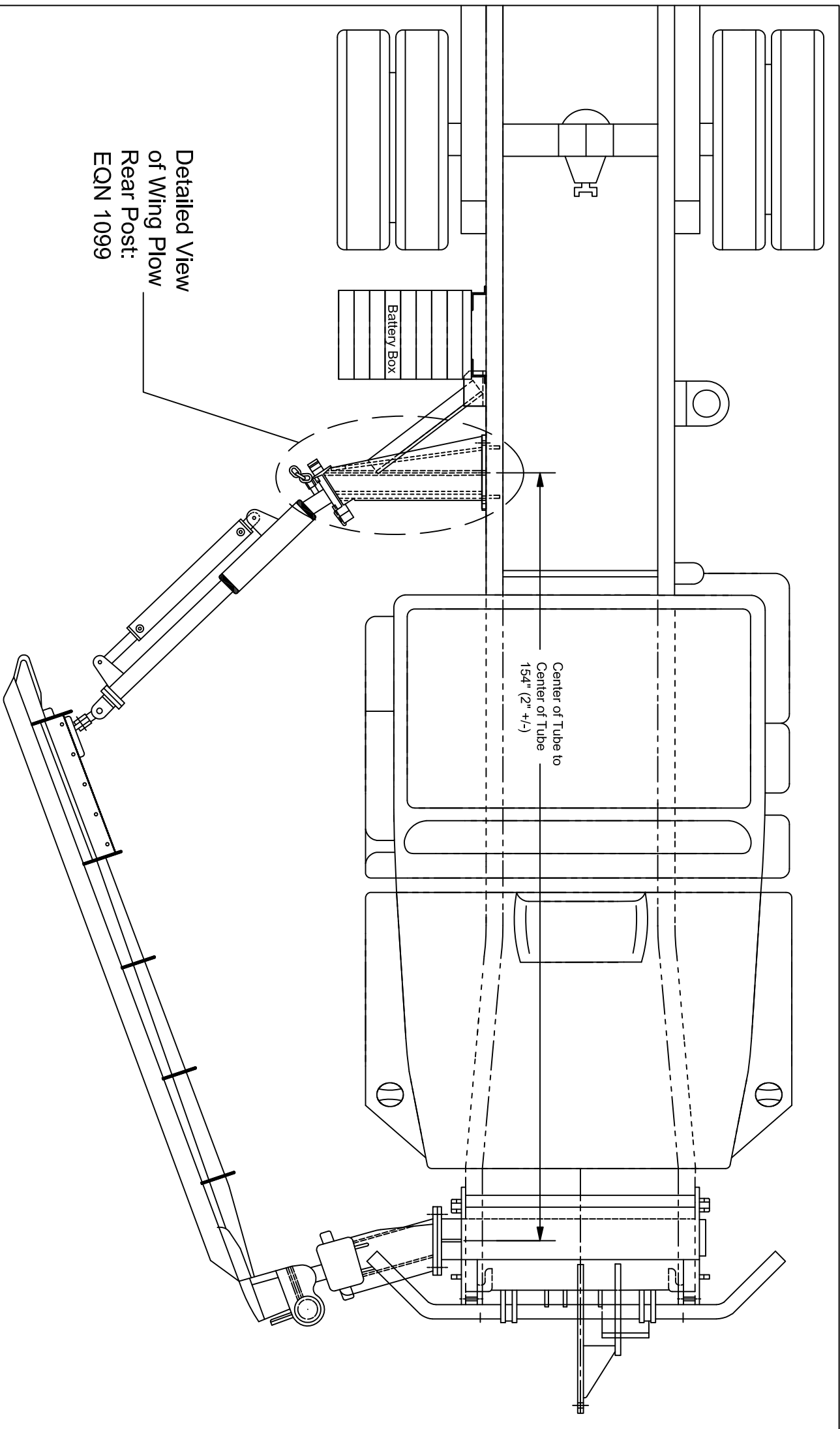


.125in. X 1.50in. X 26in. HANGER BRACE (2 REQ.) W/TWO (2) .50in. X 1.25in. STAINLESS STEEL BOLTS AND NUTS. DRILL FOR .125in. HAIR PIN (STAINLESS STEEL, LENGTH AS REQUIRED, QTY. 4).

- NOTES:
1. ALL DIMENSIONS IN INCHES
 2. MATERIAL OF CONSTRUCTION: STAINLESS STEEL THROUGHOUT, AISI TYPE 304.

PA DEPARTMENT OF TRANSPORTATION

REVISIONS			QUICK DETACH SPREADER KIT		
NO.	DATE	BY	DRAWN BY	DATE	SCALE
1	05/23/02	DWG	JJB	01-09-98	Combined With EQM-3 & SA & 9 & BA & 4.0
2	07/25/18	KBD	JJB		EQN-568
3	08/02-19	KBD	KBD		SHEET 14 OF 14

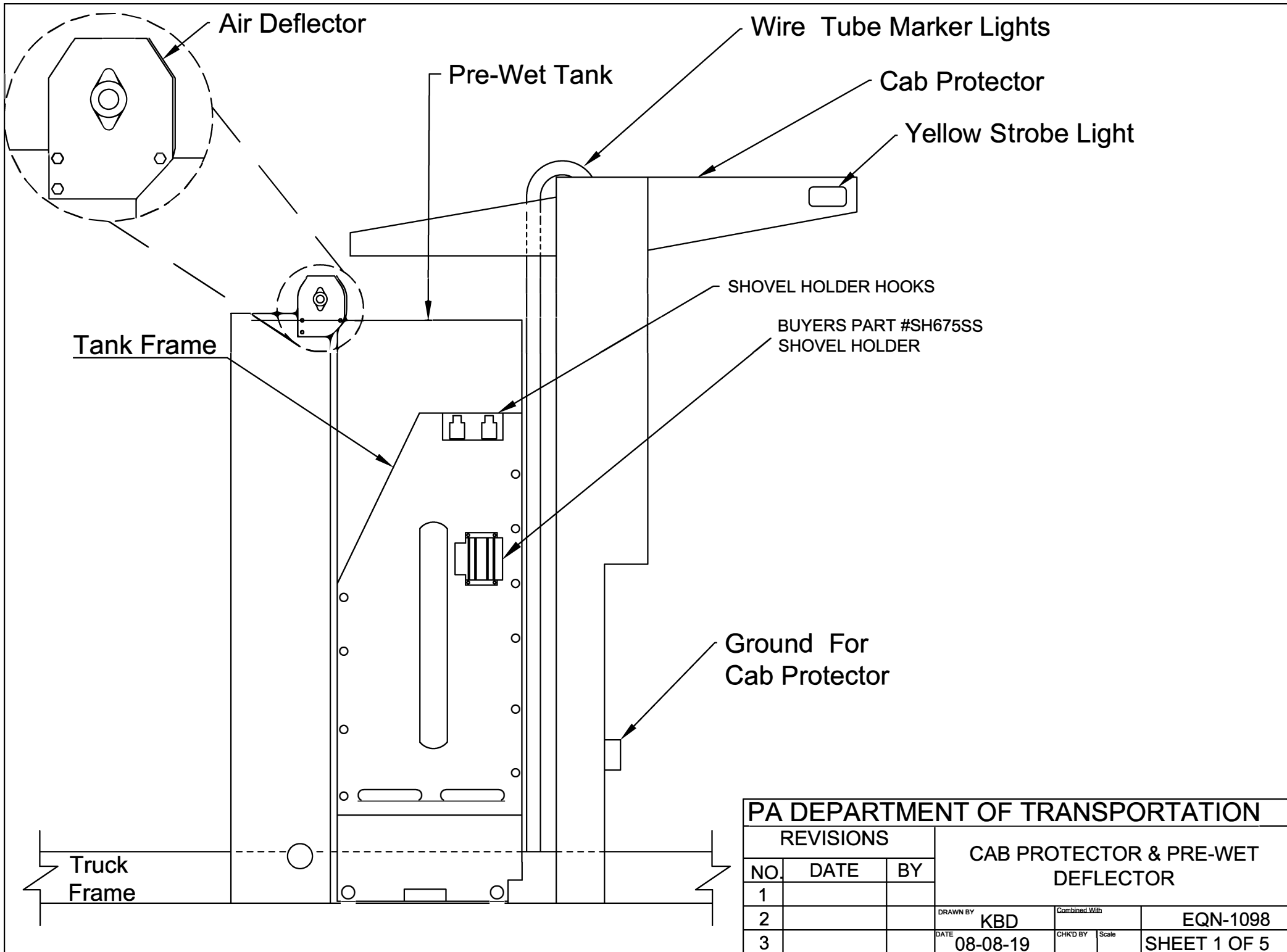


PA DEPARTMENT OF TRANSPORTATION

REVISIONS

NO.	DATE	BY	Wing Plow Tolerance
1			
2			
3			

DRAWN BY: **KBD**
 DATE: **07-12-19**
 CHECKED BY: _____
 SCALE: _____
 EQN-1097



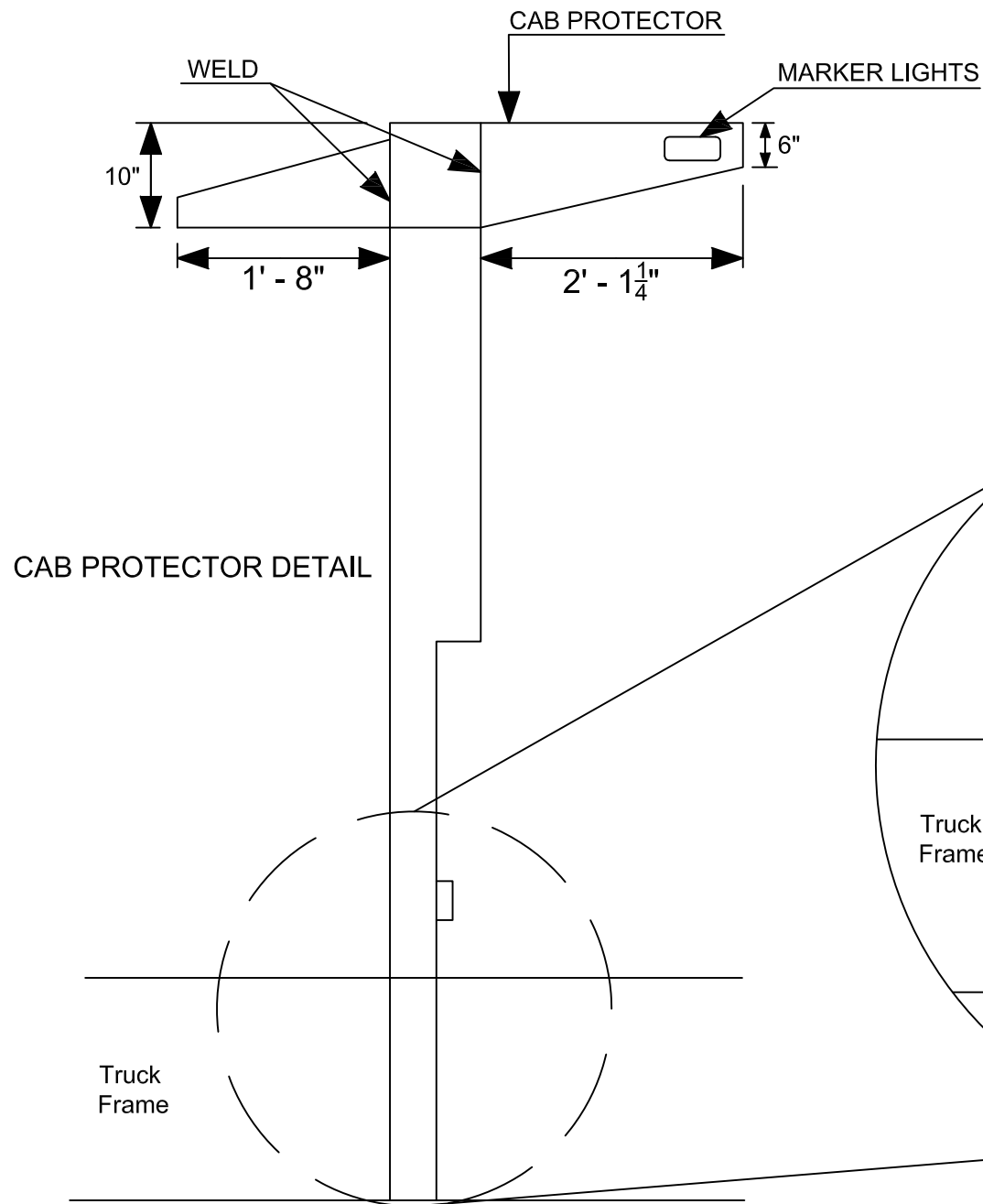
PA DEPARTMENT OF TRANSPORTATION

REVISIONS

CAB PROTECTOR & PRE-WET DEFLECTOR

NO.	DATE	BY
1		
2		
3		

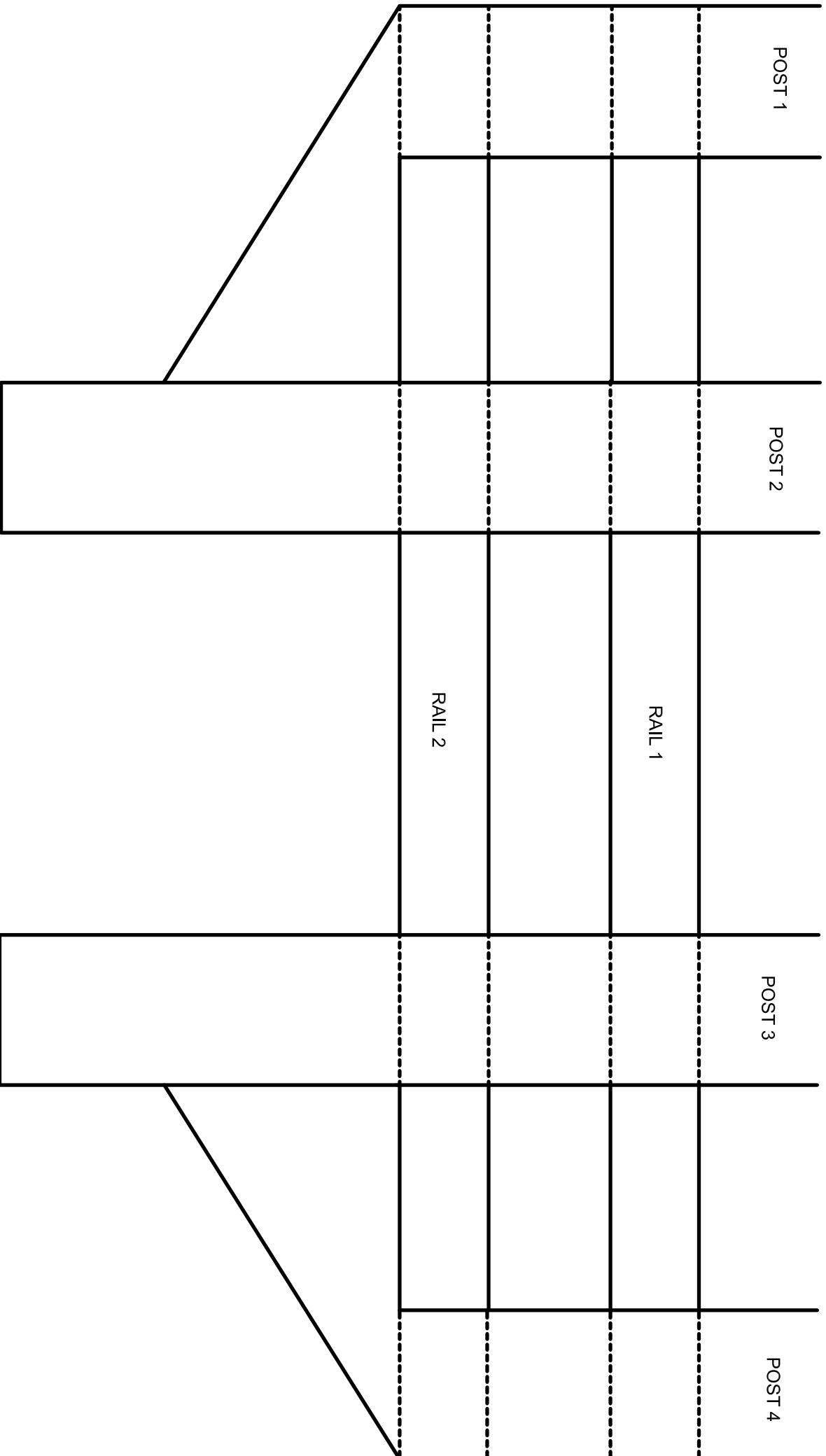
DRAWN BY	KBD	Combined With	
DATE	08-08-19	CHKD BY	Scale
			EQN-1098
			SHEET 1 OF 5



NOTE:

- TOP OF CAB PROTECTOR IS WELDED LIKE SHOWN IN DRAWINGS.
- CAB PROTECTOR IS BOLTED TO TRUCK FRAME.
- WHITE NYLON WASHER TO BE PLACED BETWEEN NUT/BOLT OF GROUND AND ALUMINUM CAB PROTECTOR.

PA DEPARTMENT OF TRANSPORTATION				
REVISIONS			CAB PROTECTOR & PRE-WET DEFLECTOR	
NO.	DATE	BY		
1				
2			DRAWN BY	Combined With
			KBD	EQN-1098
3			DATE	CHKD BY Scale
			08-08-19	N/A N/A
			SHEET 2 OF 5	



POST 1

POST 2

POST 3

POST 4

RAIL 1

RAIL 2

PA DEPARTMENT OF TRANSPORTATION

REVISIONS

CAB PROTECTOR & PRE-WET TANK

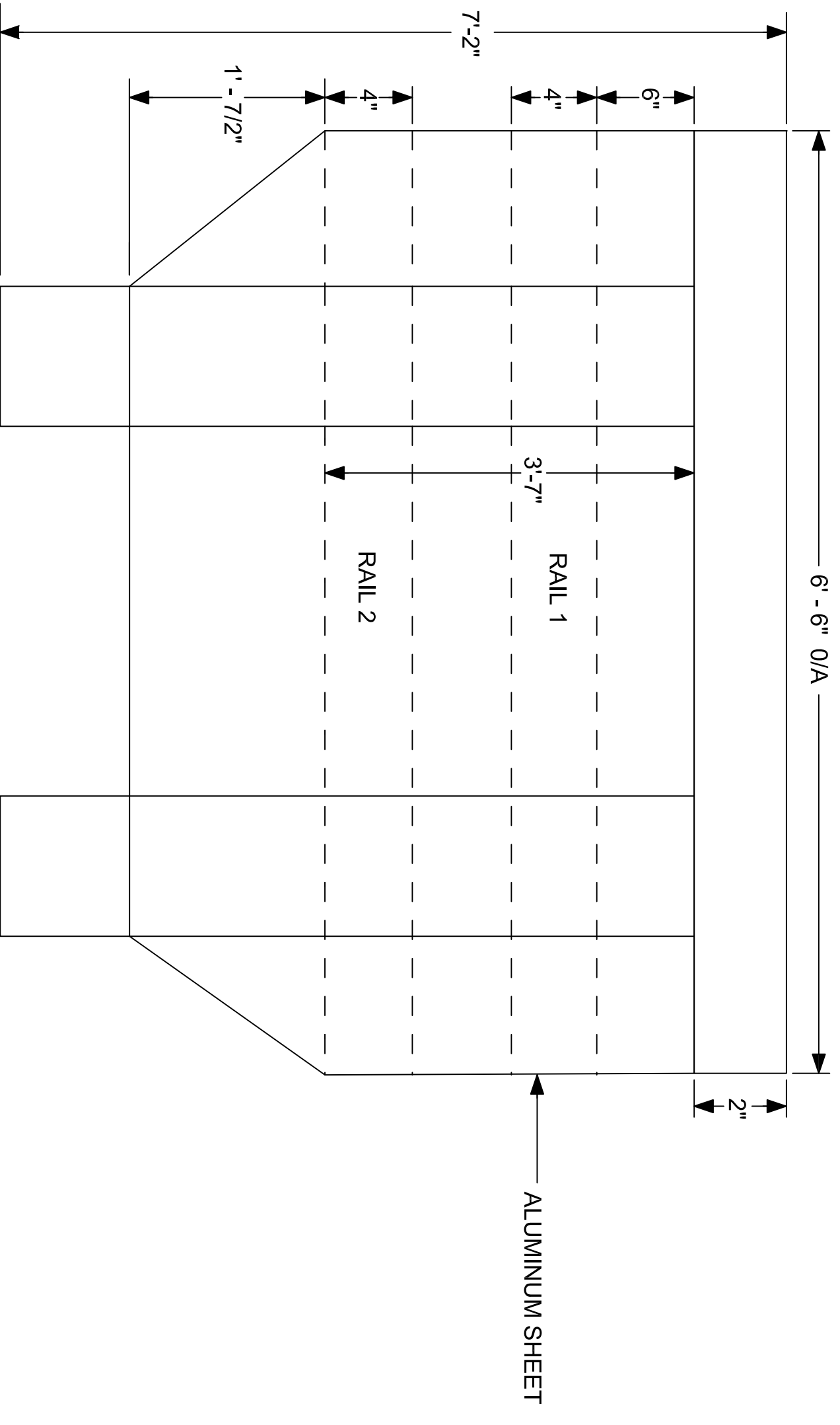
DEFLECTOR

CAB PROTECTOR

LOOKING FROM BACK

NO.	DATE	BY	DESCRIPTION
1			
2			
3			

DRAWN BY	KBD	CHECKED BY	N/A	DATE	08-08-19	SCALE	N/A	PROJECT NO.	EQN-1098
SHEET 3 OF 5									



6'-6" O/A

7'-2"

6"

4"

4"

4"

1'-7 1/2"

3'-7"

RAIL 1

RAIL 2

2"

ALUMINUM SHEET

CAB PROTECTOR

LOOKING FROM FRONT

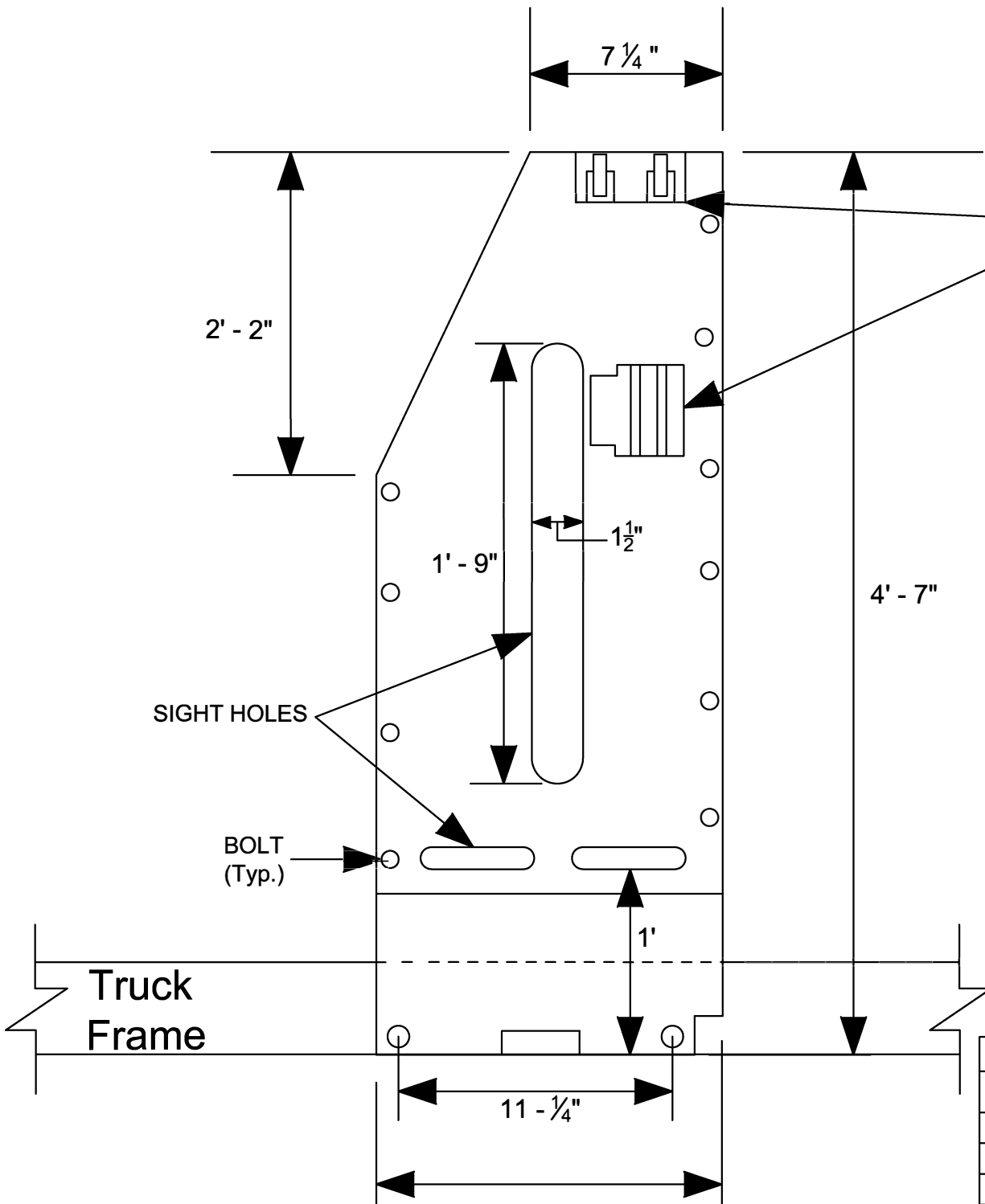
PA DEPARTMENT OF TRANSPORTATION

REVISIONS

NO.	DATE	BY	DESCRIPTION
1			
2			
3			

CAB PROTECTOR & PRE-WET TANK DEFLECTOR

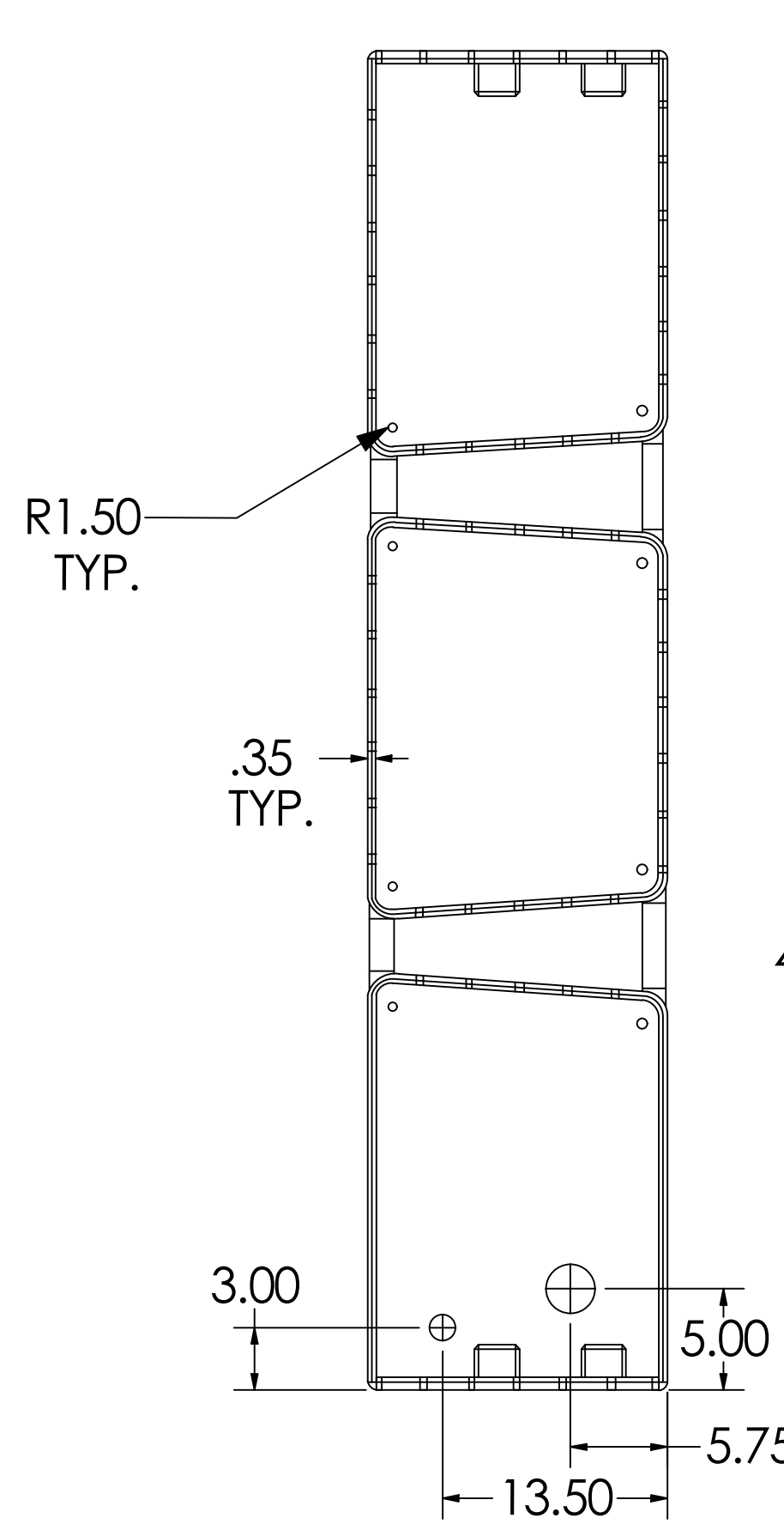
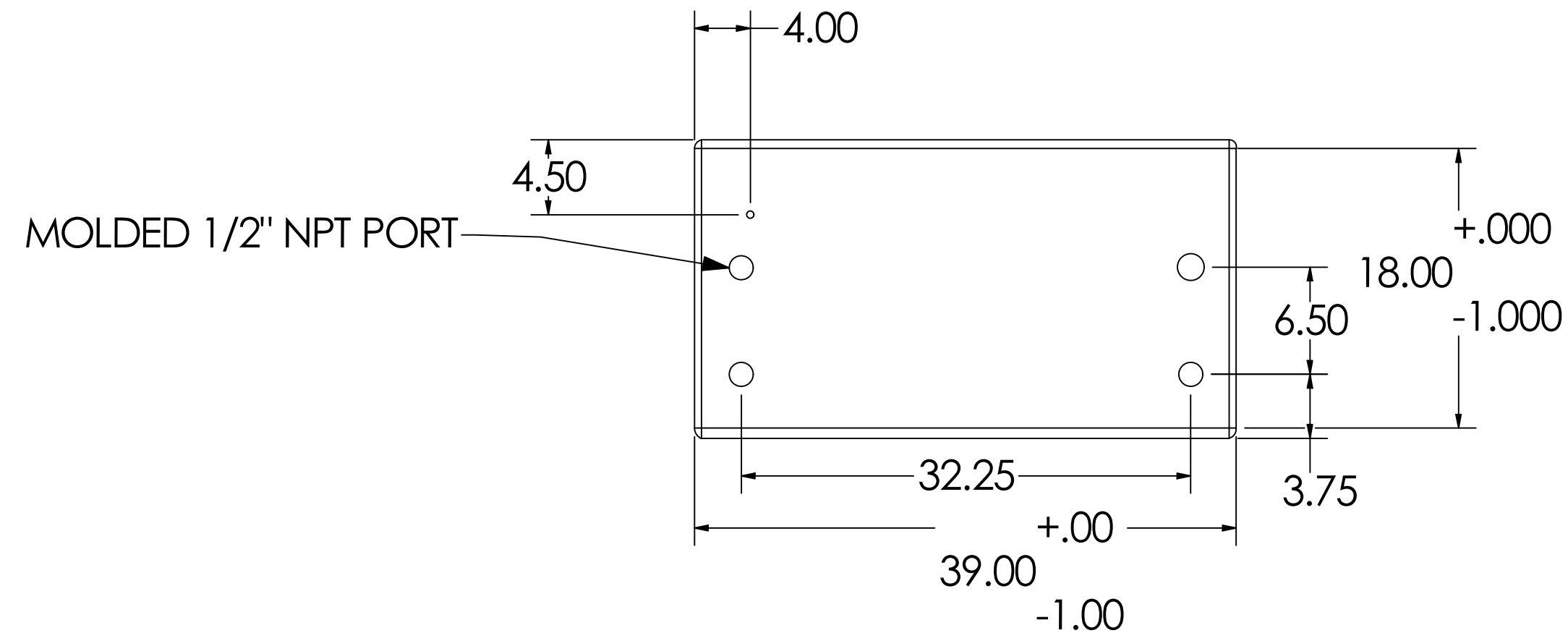
DRAWN BY: KBD
 CHECKED BY: N/A
 DATE: 08-08-19
 Scale: N/A
 EQN-1098
 SHEET 4 OF 5



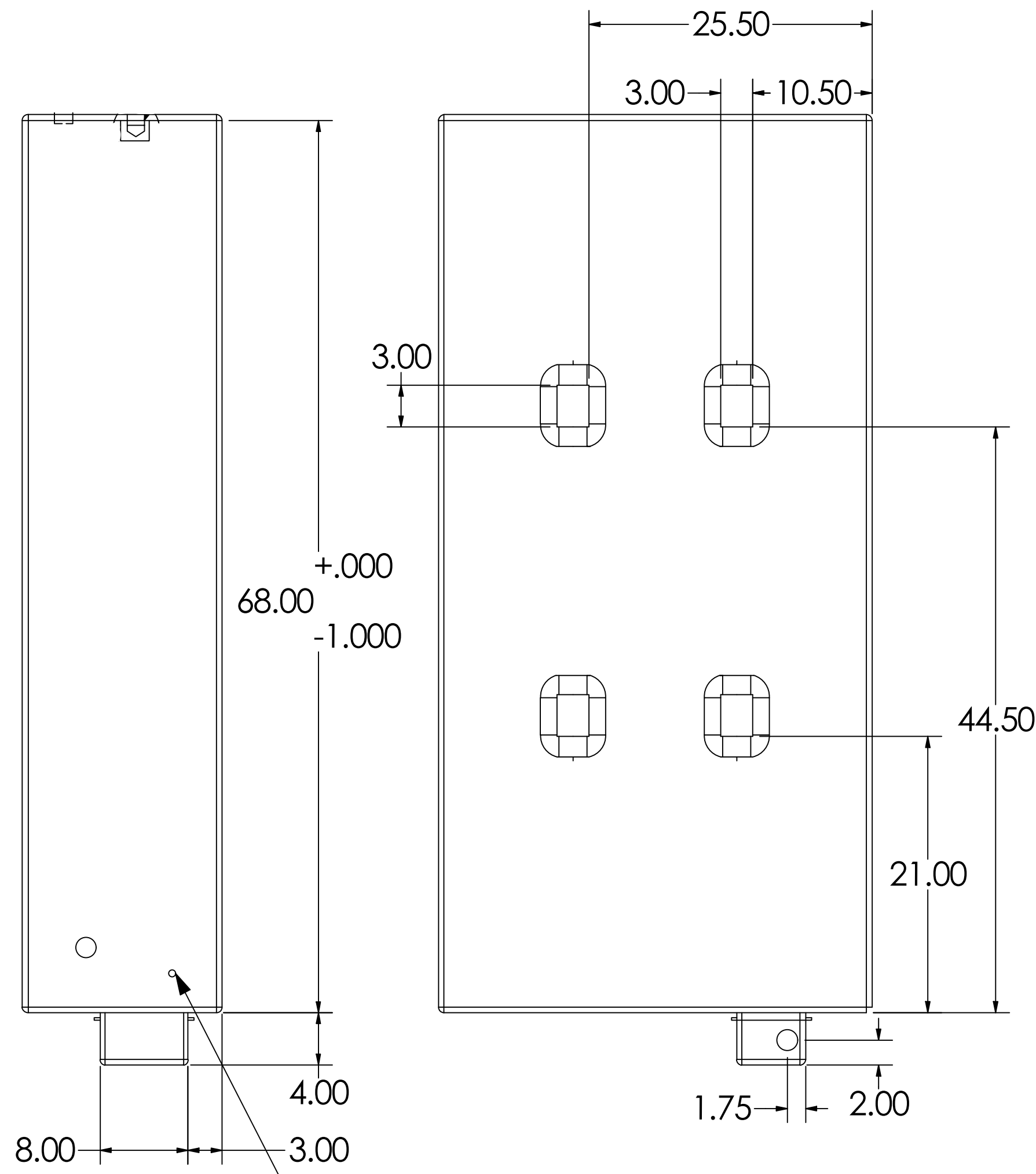
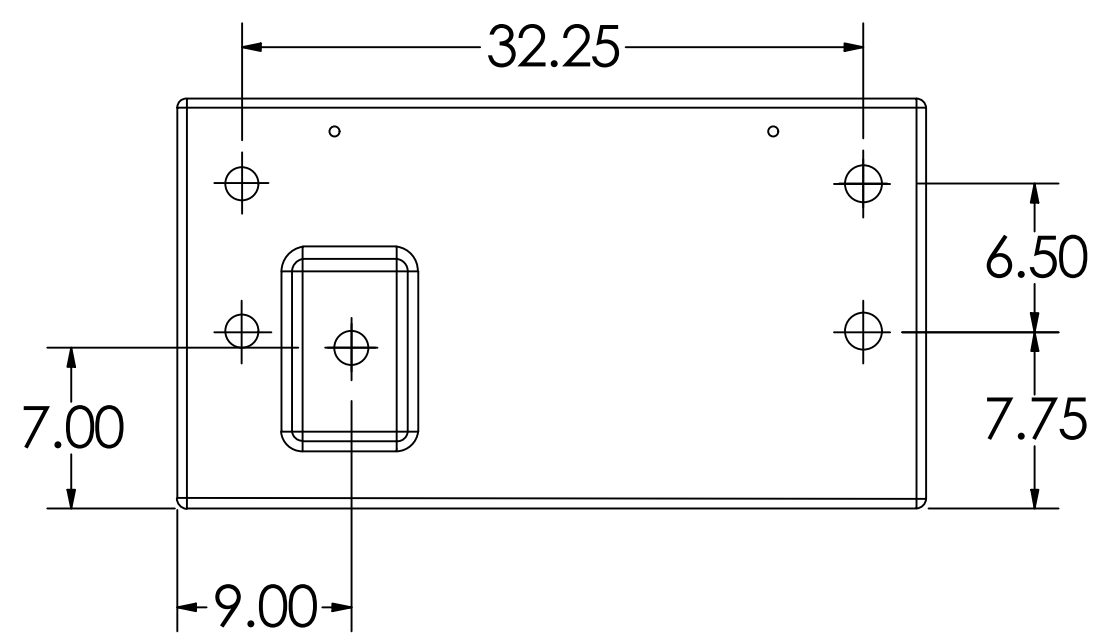
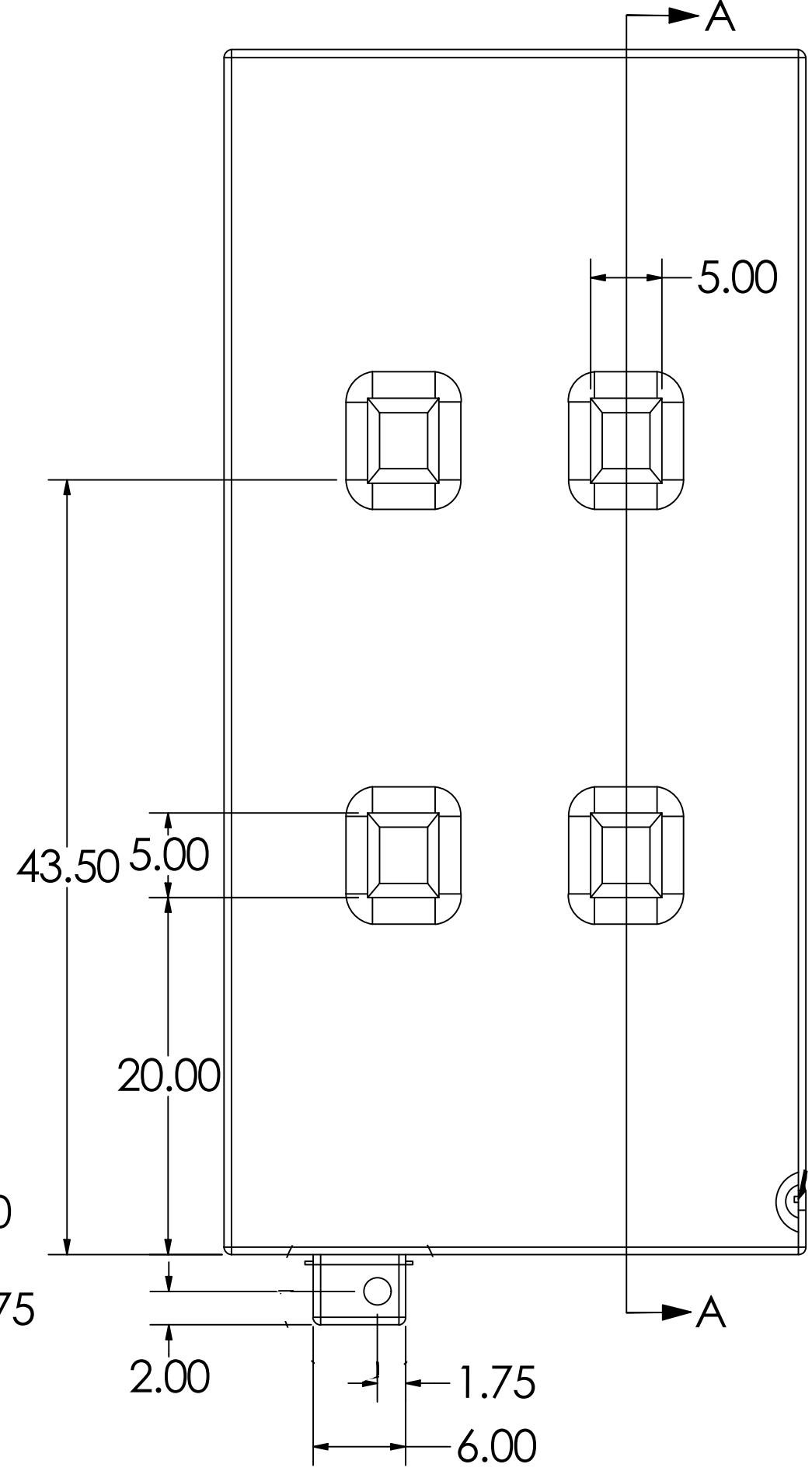
SHOVEL HOLDER

NOTE:
 - Shovel holder should be able to hold a 51" shovel without interfering with other components.

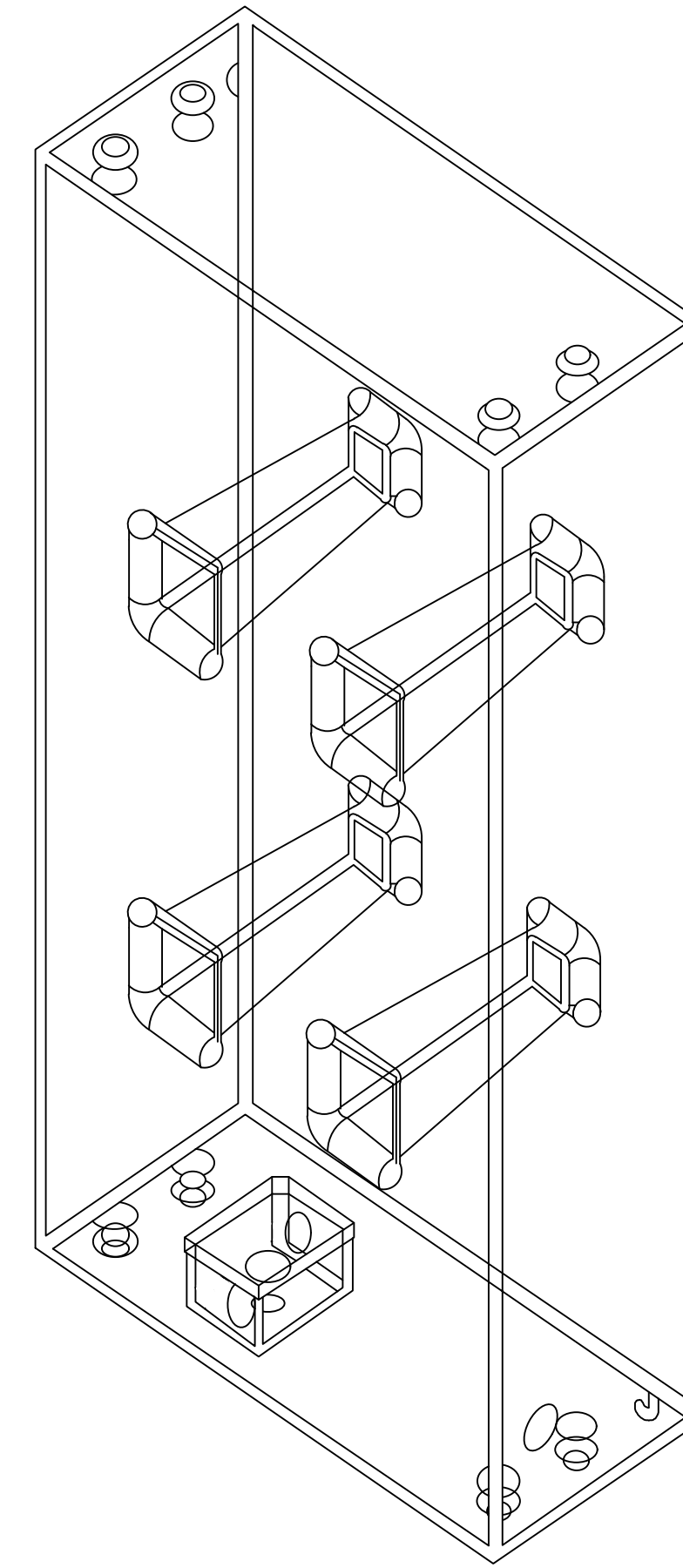
PA DEPARTMENT OF TRANSPORTATION				
REVISIONS			CAB PROTECTOR & PRE-WET DEFLECTOR	
NO.	DATE	BY		
1				
2			DRAWN BY	Combined With
			KBD	EQN-1098
3			DATE	CHK'D BY Scale
			08-08-19	N/A N/A SHEET 5 OF 5



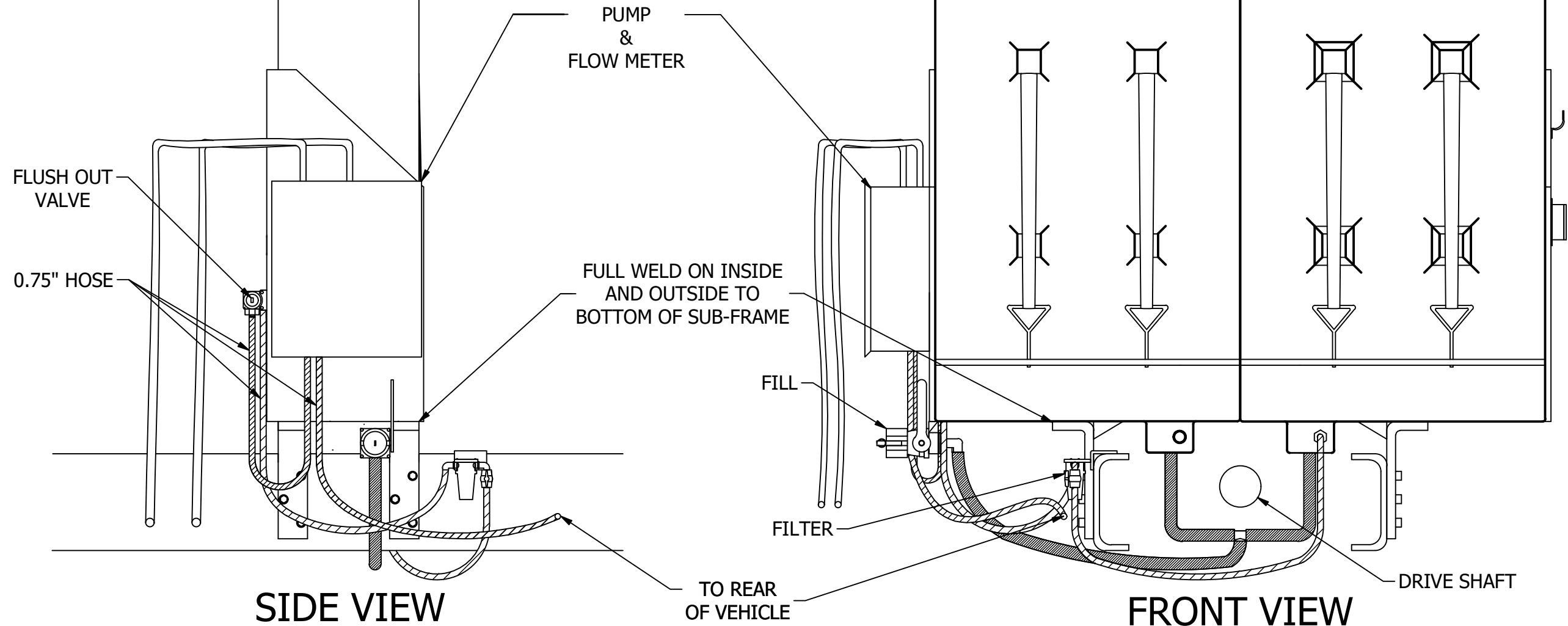
SECTION A-A



MOLDED 1/2" NPT PORT



REVISIONS			PA DEPARTMENT OF TRANSPORTATION	
NO.	DATE	BY	TITLE	
1	5-23-23	DVC	Dump Trucks 190 Pre-wet Tanks	
2				
3				
			DATE	DWG NO
			9-16-2020	EQN-1098 B
			SHEET 1 of 2	

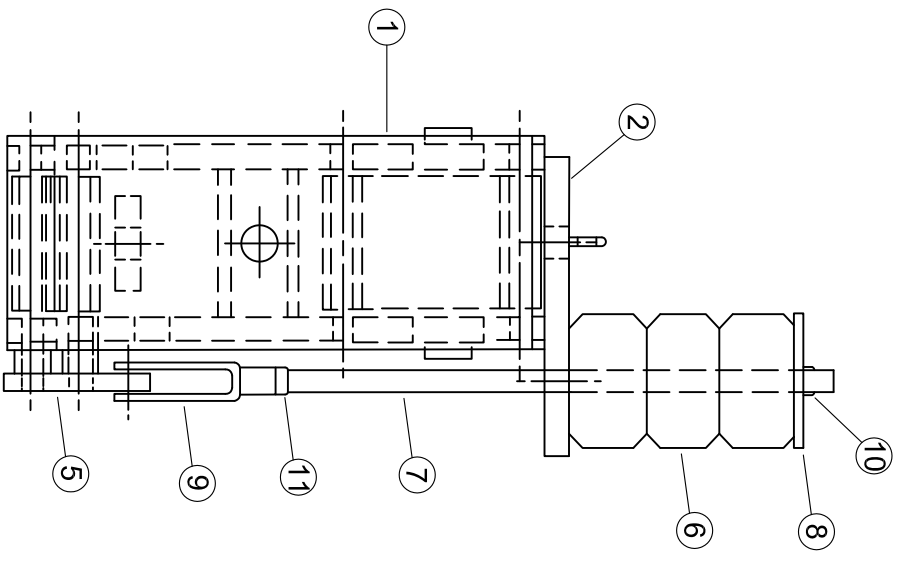
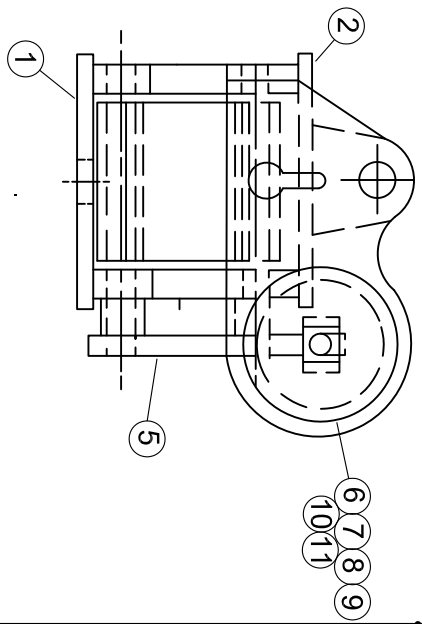


SIDE VIEW

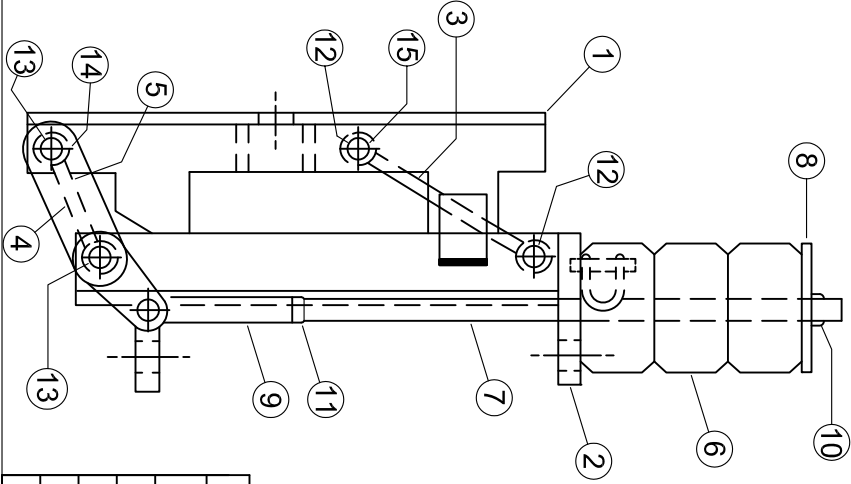
FRONT VIEW

NOTE:
STAINLESS STEEL SUB-FRAME

DRAWN LWB	7/13/2022	PA DEPARTMENT OF TRANSPORTATION		
CHECKED		TITLE		
QA		PRE-WET TANK 190 GALLON SPECIFICATIONS AND HOSE DIAGRAMS		
REVISIONS		SIZE	DWG NO	REV
DVC	7-19-23	B	EQN-1098-B	
		SCALE	1/15	SHEET 2 OF 2



ITEM	PART NO.	DESCRIPTION	REQ'D	NAME
1	17477-B	SEE DRWG.	1	FRONT MTG. PLATE WLDMT
2	17481-B	SEE DRWG.	1	REAR MTG PLATE WLDMT.
3	17485-A	SEE DRWG.	1	TOP LINKAGE
4	17486-A	SEE DRWG.	1	BOTTOM LINKAGE
5	17488-A	SEE DRWG.	1	SIDE LINKAGE
6	P-116-838	AEON A760-75	1	TIMBREN SPRING
7	17489-A	3/4" DIA. ROD x 25 LG. C.F.	1	ADJUSTING ROD
8	17490-A	----	1	SPACER
9	P-116-839	----	1	YOKE
10	P-130-68	3/4" LOCK NUT	1	LOCK NUT
11	P-130-23	3/4" NUT	2	NUT
12	5308-A477	7/8 - 9 UNC x 9 - 1/2 LG. w/LOCK NUT	2	CAPSCREW GR. 8
13	5308-A478	7/8 - 9 UNC x 12 LG. w/LOCK NUT	3	CAPSCREW GR. 8
14	P-129-2	1/8" NPT (SCREW IN STRAIGHT)	1	ZERK
15	P-129-178	1/8" NPT (SCREW IN 45 DEG)	1	ZERK
16	17565-A	SEE DRWG.	1	HINGE PIN



R.H. SHOWN
L.H. OPPOSITE

1 REQ'D PER UNIT

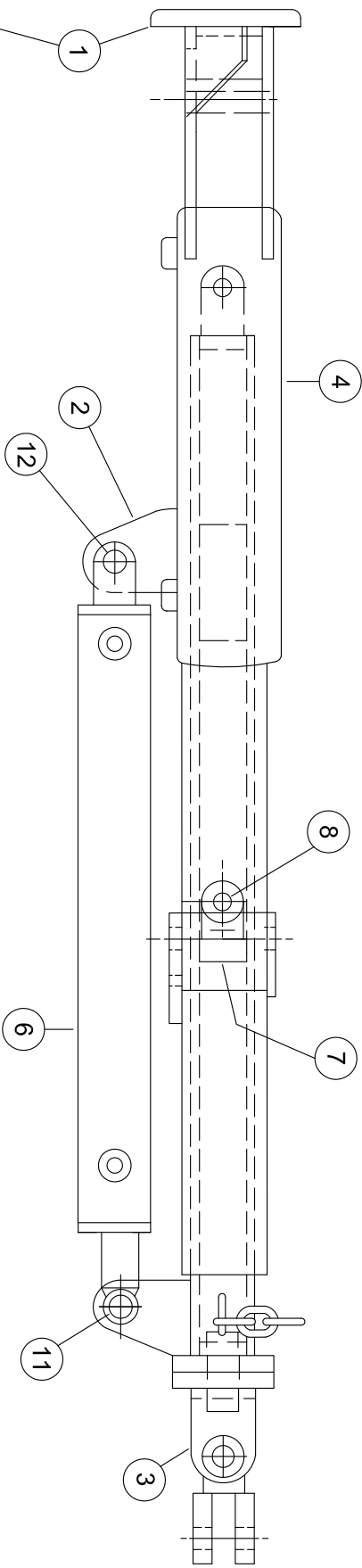
PA DEPARTMENT OF TRANSPORTATION

REVISIONS

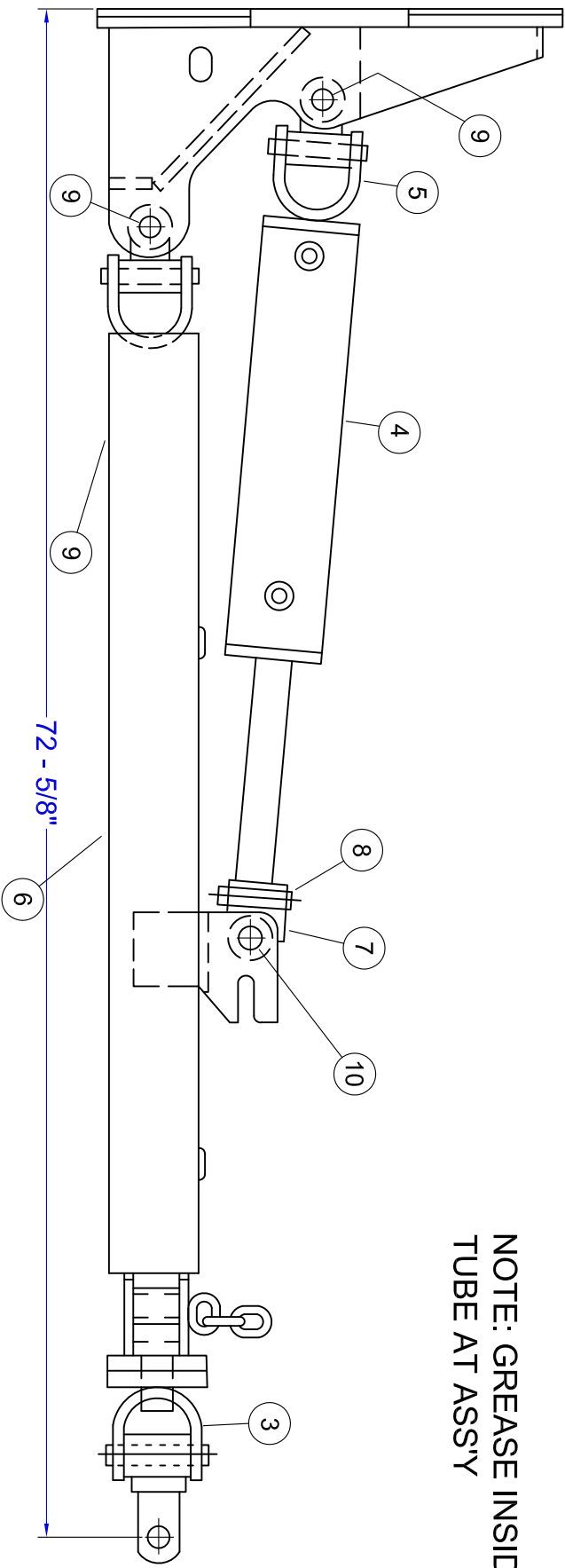
TRIP LINKAGE FOR WING
PLOW

NO.	DATE	BY	DRAWN BY	Checked With	EQN-1099
1			KBD		
2					
3					

DATE	CHK'D BY	Scale	Sheet
07-18-19			3 of 14



NOTE: GREASE INSIDE
TUBE AT ASS'Y



ITEM	PART NO.	REQ'D	NAME	DESCRIPTION
1	17543-B	1	REAR POST SLIDE	SEE DRWG.
2	17550-B	1	OUTER PUSH BRACE	SEE DRWG.
3	17557-B	1	INNER PUSH BRACE	SEE DRWG.
4	P-114-110	1	TOP HYD. CYLINDER	4 X 13-1/4 S.A
5	17551-A	1	SWIVEL FLANGE	SEE DRWG. (USED CYL. ITEM #4)
6	P-114-109	1	SIDE HYD. CYLINDER	3 X 24 D.A.
7	17551-A	1	CYL. ROD END SWIVEL TUBE	SEE DRWG.
8	F-159-4	1	PIN	1" DIA. x 3-1/2" LG. CRR
9	11685-A10	2	PIN	1" DIA. x 5" LG. w/HAIR PIN
10	5308-A377	1	CAPSCREW GR. 8	1" -8 UNC x 6 LG. w/JAM NUT
11	5308-A479	1	CAPSCREW GR. 8	1" -8 UNC x 4 LG. w/JAM NUT
12	5308-A480	1	CAPSCREW GR. 8	1" -8 UNC x 3-1/2 LG. w/JAM NUT

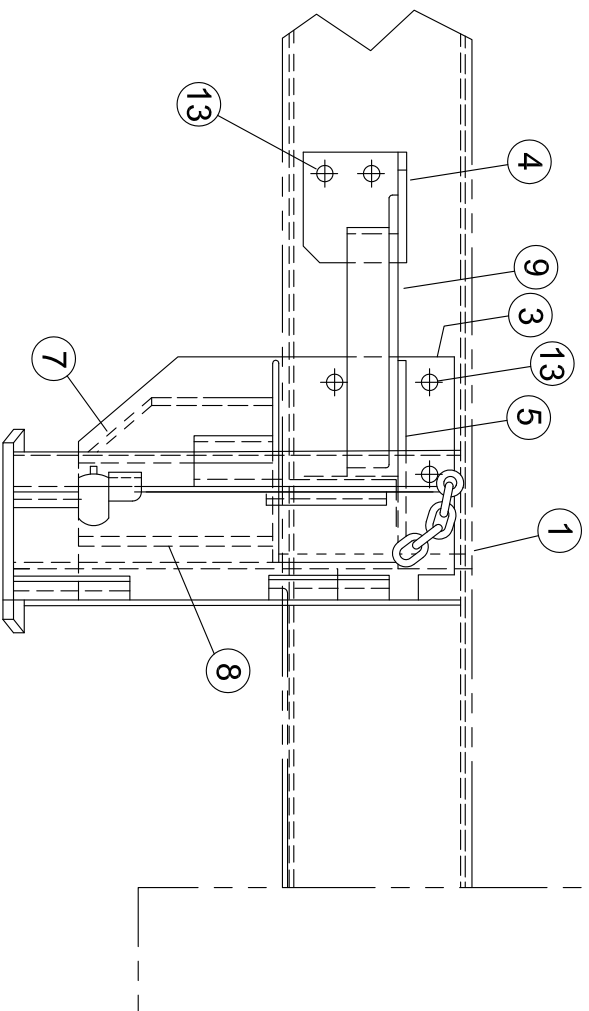
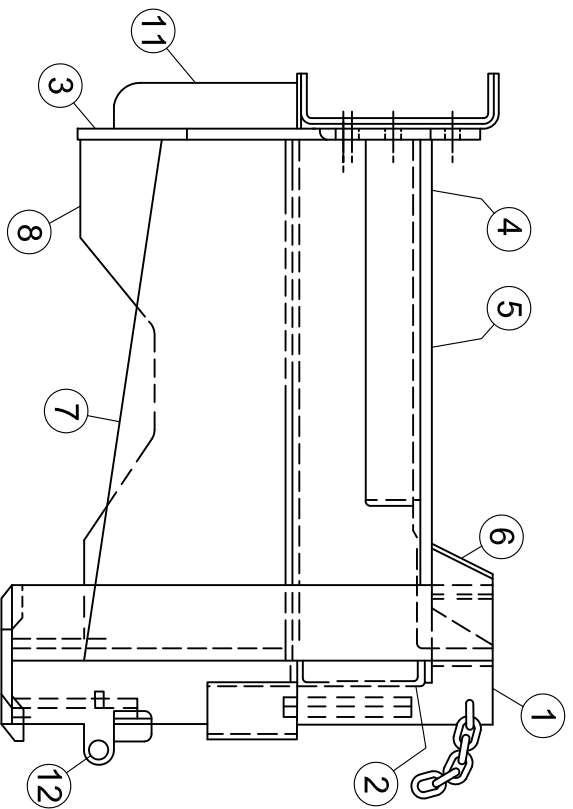
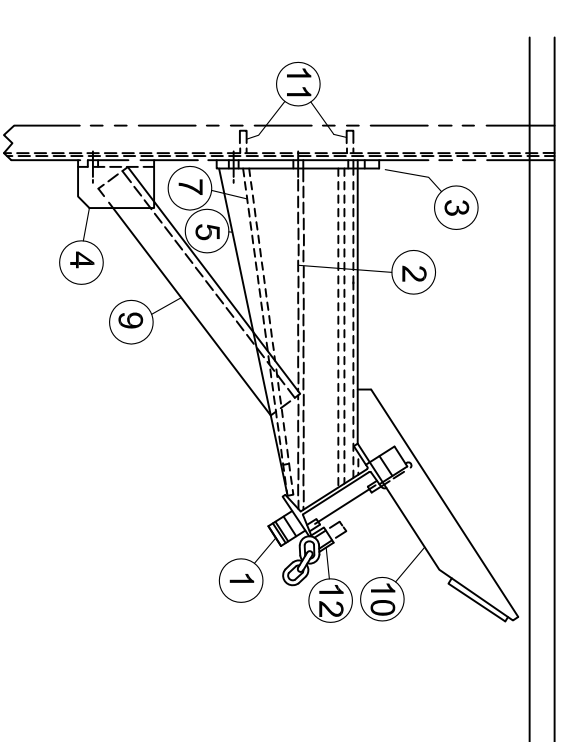
PA DEPARTMENT OF TRANSPORTATION

REVISIONS

NO.	DATE	BY	REVISIONS
1			
2			
3			

REAR WING PUSH BRACE
FOR WING PLOW

DRAWN BY	Checked/Title	EQN-1099
KBD	Scale	
DATE	07-18-19	Sheet 4 of 14



ITEM	PART NO.	REQ.	NAME	DESCRIPTION
1	17569-B	1	I-BEAM W/LD.MT.	SEE DRWG.
2	17570-A	1	RECT. TUBE	SEE DRWG.
3	17571-A	1	SIDE PLATE	
4	17572-A	1	MTG. ANGLE	
5	17573-A	2	REINF. PLATE	
6	5855-A-141	2	GUSSET	
7	17574-A	1	GUSSET	
8	17575-A	1	REINF. BAR	
9	F-118-46	1	REINF. ANGLE	
10	17626-A	1	WING UP STOP	SEE DRWG.
11	14658-A20	2	REINF. BAR	
12	17134-A3	1	PIN	1" DIA. x 5-1/2 LG. w/HAIR PIN
13	5308-A261	7	CAPSCREW GR. 8	3/4-10 UNC x 2-1/2 LG. w/LOCK NUT

PA DEPARTMENT OF TRANSPORTATION

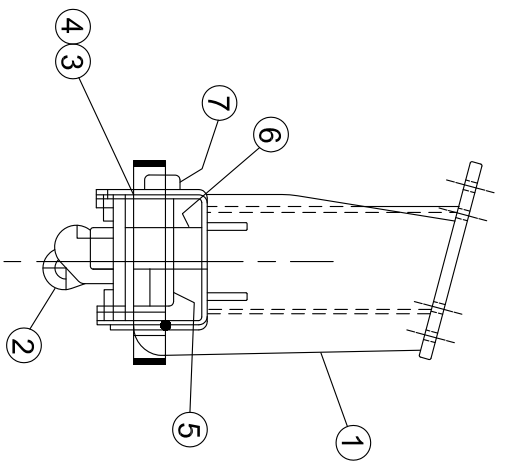
REVISIONS

NO.	DATE	BY
1		
2		
3		

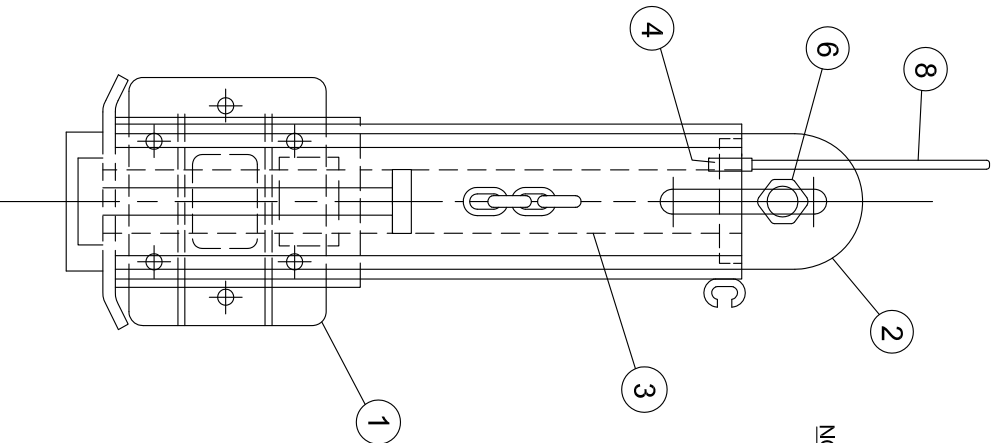
PASS. SIDE REAR POST FOR WING FLOW

NO.	DATE	BY	DESCRIPTION
1			
2			
3			

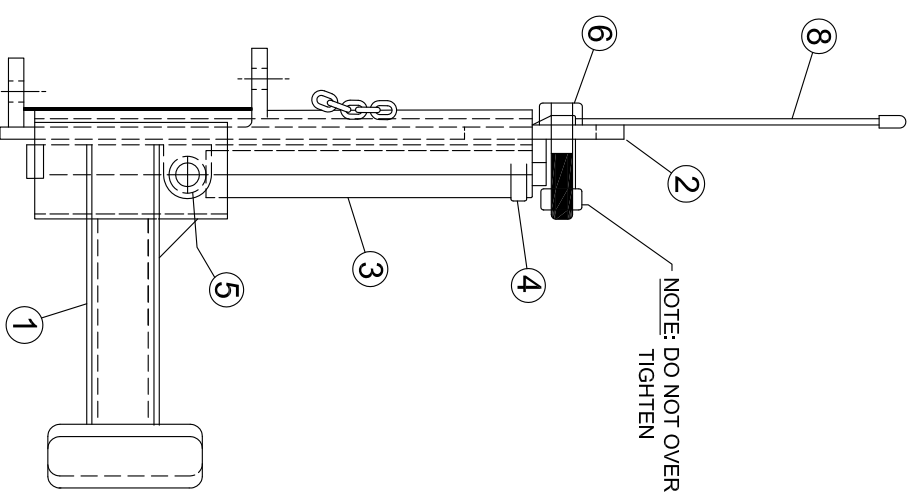
DRAWN BY **KBD** Combined With **EQN-1099**
 DATE **07-18-19** CHK'D BY Scale **Sheet 5 of 14**



NOTE: GREASE SLIDE
PLATE AT ASSY



ITEMS	PART NO.	REQ.	NAME	DESCRIPTION
1	17492-D	1	FRONT POST WLDMT.	SEE DRWG.
2	17502-C	1	SLIDE WLDMT.	SEE DRWG.
3	P-114-108	1	HYD. CYLINDER	2-1/2 x 15 D.A.
4	17504-A	1	CYL. HOLD DOWN	
5	F-176-3	1	PIN (BOTTOM CYL.)	1-1/2 DIA. x 7-1/2 LG. HRR
6	5308-A475	1	CAPSCREW GR. 8	1-1/4-7 UNC x 6 LG. w/LOCK NUT
7	5308-A476	1	CAPSCREW GR. 8	1/4-20 UNC x 3 LG. w/LOCK NUT
8	P-116-637	1	MARKER POLE	BUYERS



PA DEPARTMENT OF TRANSPORTATION

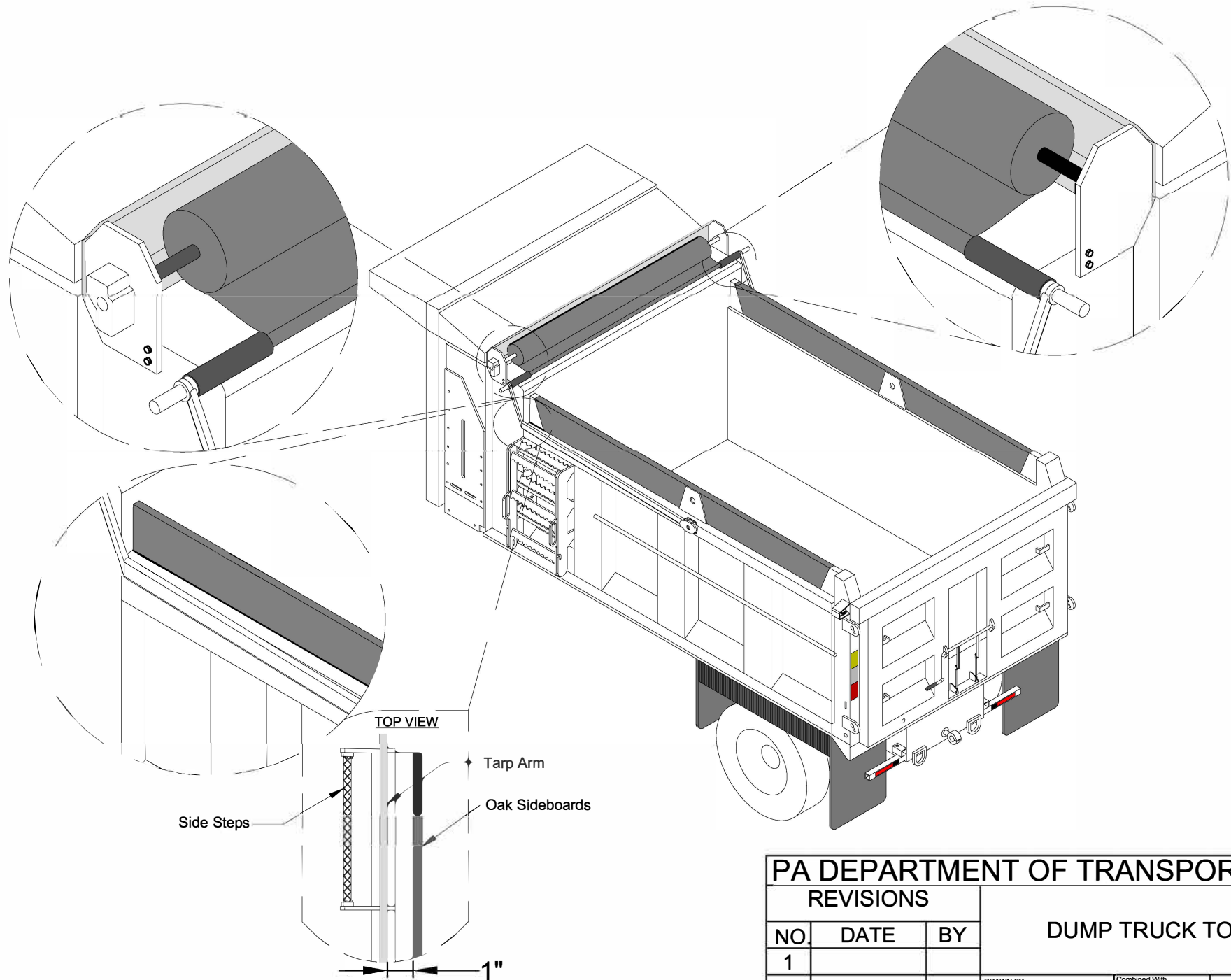
REVISIONS

NO.	DATE	BY
1		
2		
3		

FRONT POST ASS'Y

NO.	DATE	BY	DESCRIPTION
1			
2			
3			

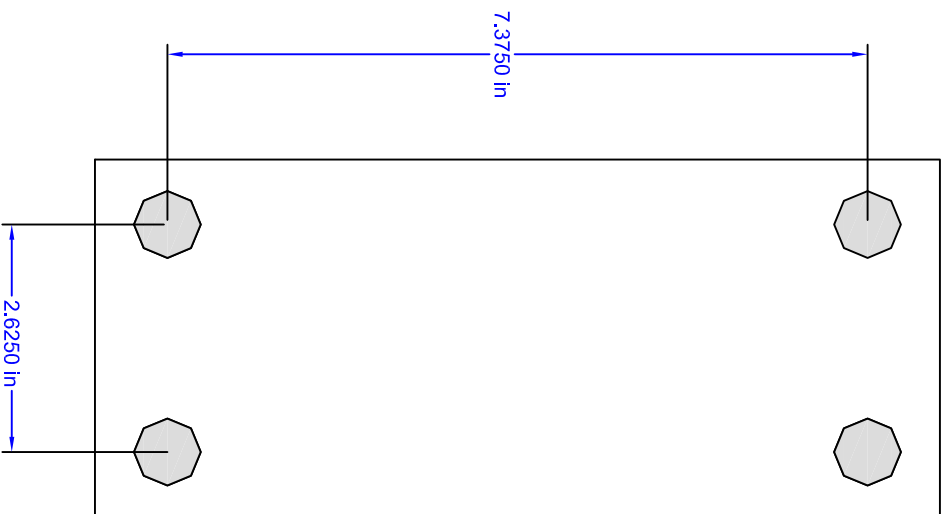
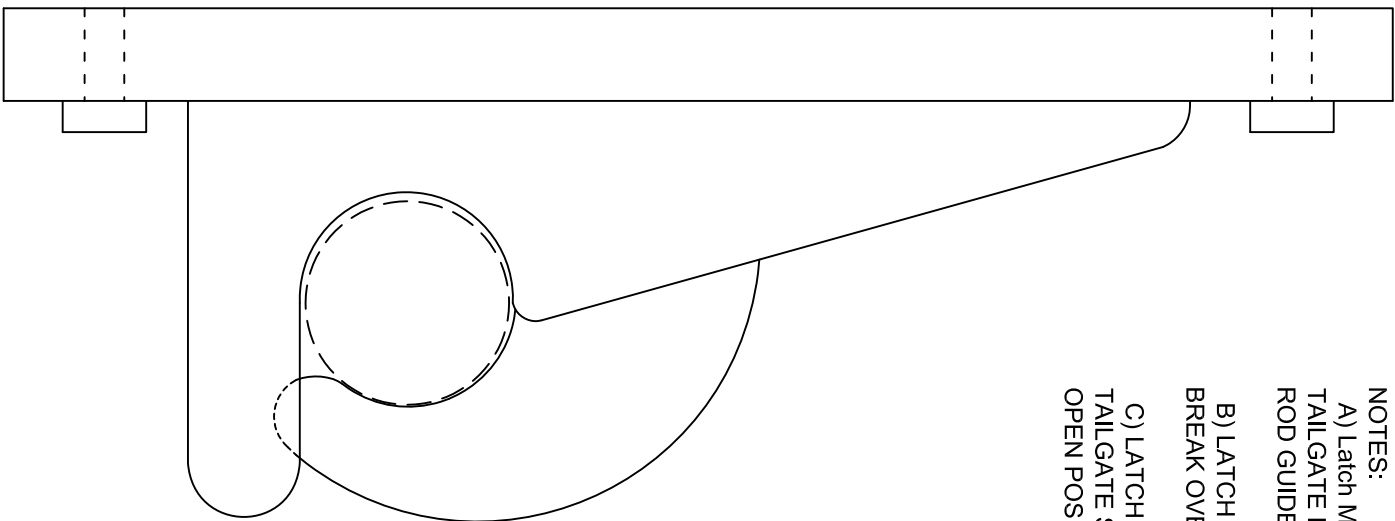
DRAWN BY	KBD	Checked With	EQN-1099
DATE	07-18-19	CHK'D BY	Scale
			Sheet 7 of 14



PA DEPARTMENT OF TRANSPORTATION			REVISIONS	
NO.	DATE	BY	DUMP TRUCK TOP TARP	
1				
2			DRAWN BY KBD	Combined With EQN-1100
3			DATE 08-06-19	CHKD BY Scale SHEET 2 OF 2

NOTES:

- A) Latch MUST FULLY CLOSE ON TAILGATE ROD AND ENGAGE TAILGATE ROD GUIDE FINGERS.
- B) LATCH SHALL BE ADJUSTED TO BREAK OVER CENTER WHEN CLOSED.
- C) LATCH SHALL NOT INTERFERE WITH TAILGATE SWING WHEN LATCH IS IN THE OPEN POSITION.



PA DEPARTMENT OF TRANSPORTATION

REVISIONS			Dump Truck Latch	
NO.	DATE	BY		
1				
2				
3				

DRAWN BY	KBD	Checked With	EQN-1105
DATE	07-29-19	CHK'D BY	Scale
			SHEET 1 OF 1