

**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**

DATE: 11-18-87  
 CHECKED BY: RED  
 SHEET 1 OF 2

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:

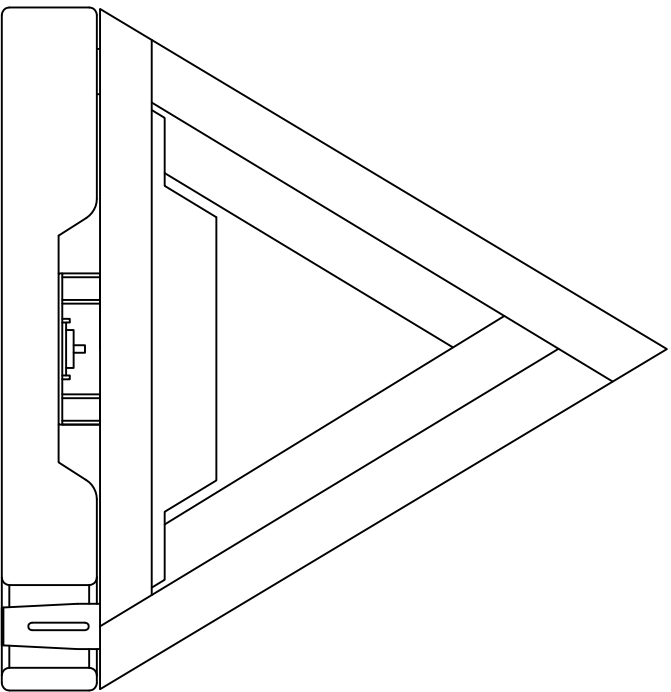
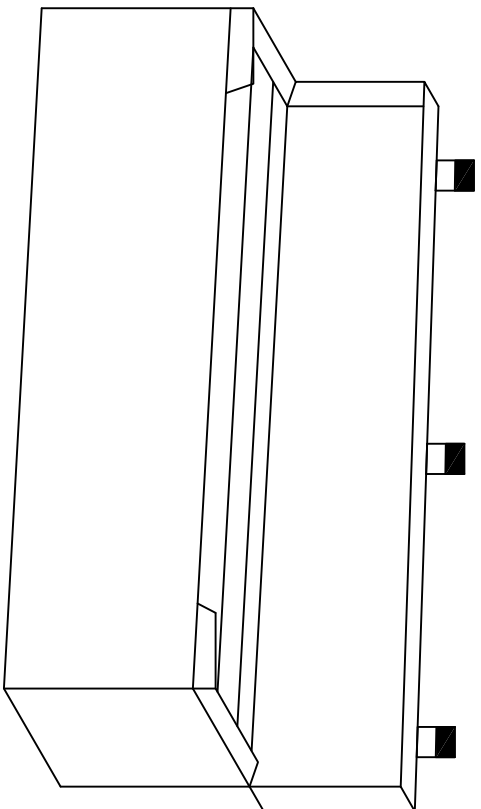
1. MATERIAL: MOLDED NATURAL OR SYNTHETIC BLACK TIRE CHORD IMPREGNATED RUBBER. OIL AND SALT RESISTANT.
2. ANTI-SAIL NOT ACCEPTABLE.
3. MANUFACTURERS STANDARD SIZE ACCEPTABLE IF ALL MINIMUM THICKNESS, DIMENSIONS, AND WEIGHT SPECIFICATIONS ARE MET.
4. AS PER PA VEHICLES EQUIPMENT AND INSPECTION REGULATIONS, 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			
3	07-20-09	TOD	DATE 11-18-87	CHG'D BY RED	SHEET 2 OF 2

**SPLASH GUARDS-RUBBER TRAILER & TRUCK**

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

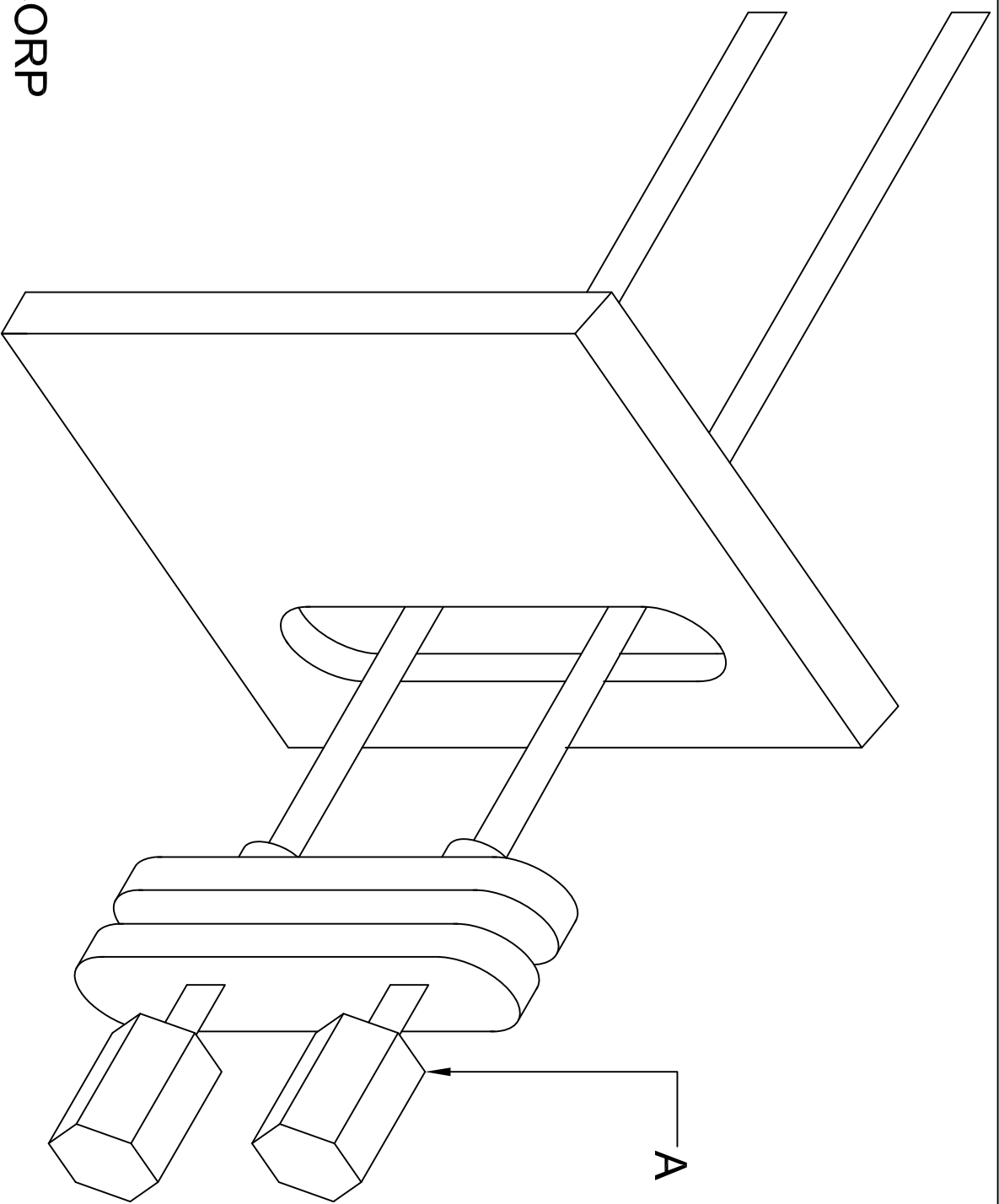


**PA DEPARTMENT OF TRANSPORTATION**

REVISIONS			DRAWN BY			SCALE		
NO.	DATE	BY	DATE	CHK'D BY	SHEET	NO.	OF	TOTAL
1	05-31-07	KNH	04-23-92	RED	1	1	1	1
2	07-20-09	TOD						
3	07-13-17	HMR						

**TRIANGLE STORAGE BOX AND  
 BRACKET**

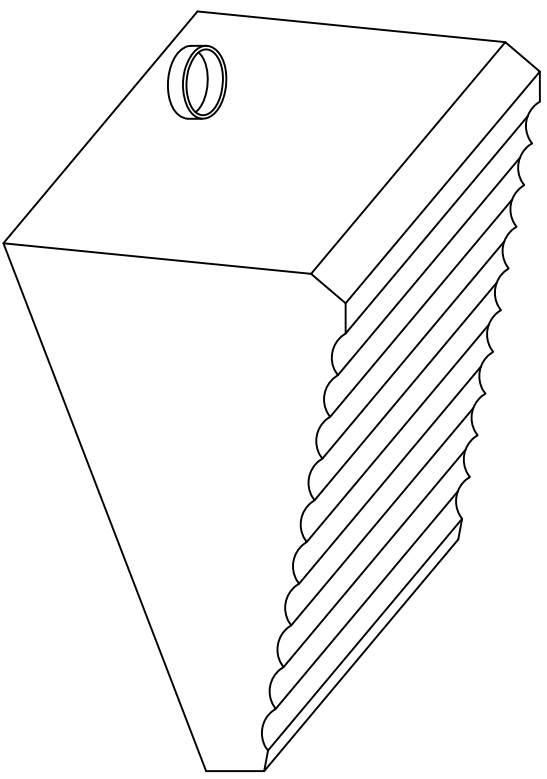
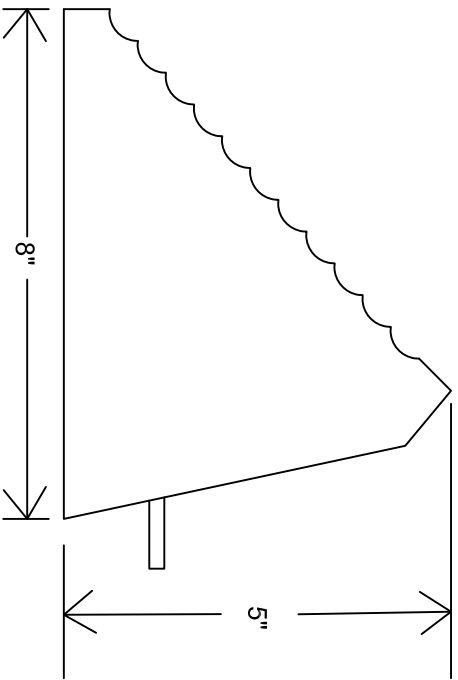
EQN-66A



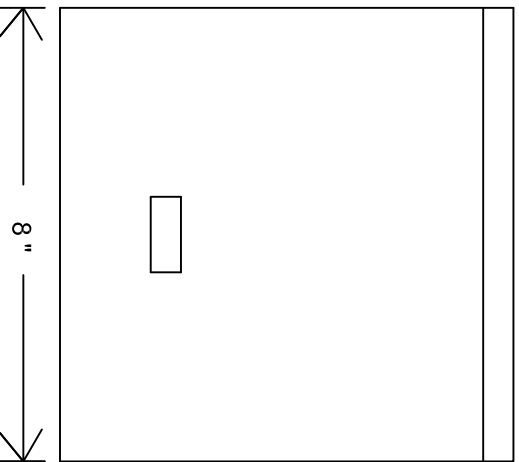
A.  
 PANA PACIFIC CORP  
 541 DIVISION STREET  
 CAMPBELL, CALIFORNIA 95008  
 408-374-7900

PART #531 277 C1

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



FINAL MOUNTING LOCATION SHALL BE DETERMINED AT THE PRE-BUILD MEETING. CHOCK HOLDERS SHALL BE ALUMINUM. TWO CHOCKS PER TRUCK SHALL BE SUPPLIED. CHOCKS SHALL HAVE 4 FEET OF  $\frac{3}{8}$  INCH NYLON ROPE CONNECTING THE TWO CHOCKS TOGETHER.



**PA DEPARTMENT OF TRANSPORTATION**

REVISIONS			5" X 8" X 8" CHOCK AND HOLDER		
NO.	DATE	BY	DRAWN BY	SCALE	
1			JJB	N/A	EQN-82B
2					
3					

DATE 07-22-15 SHEET 1 OF 1



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**

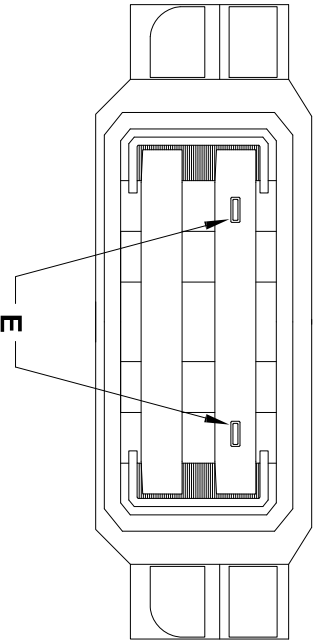
NO	DATE	BY	UNDERRIDE PROTECTION
1	07/08/97	DLW	
2	07/01/03	KGK	
3	06/26/09	TOD	

**UNDERRIDE PROTECTION**

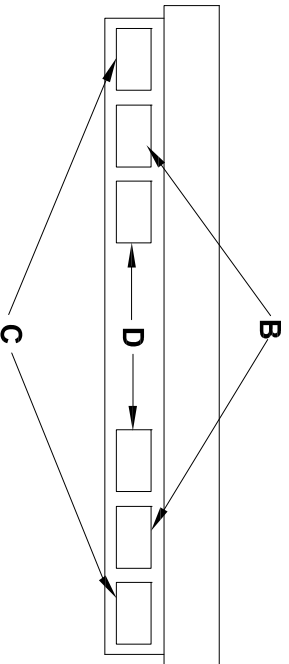
DRAWN BY	DLW	SCALE	N/A	EQN -118
DATE	02-04-92	CHECKED BY	RR	SHEET 1 OF 1

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

FRONT VIEW



REAR VIEW

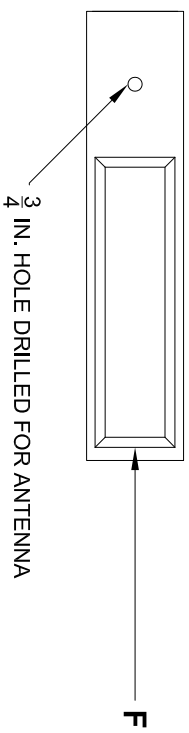


The purpose of this drawing is to show locations for Body Lighting, Whelen part # PADOTSY8.

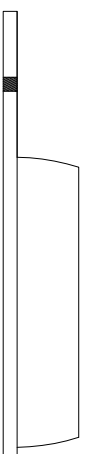
- A. LINZ6AD Amber Warning Light, grommet (flush) mounted, one each side.
- B. M6BUD Back up Lights with Brush Guards.
- C. M5BTTD Stop / Tail / Turn Lights with Brush Guards.
- D. M6AD Amber Warning Lights with Brush Guards.
- E. LINZ6AD Amber Warning Light, both grommet mounted (flush with Front Grill).
- F. R10PADOT, R10-Mini Bar Warning Light.

PLATFORM MOUNTED  
LED LIGHT BAR & ANTENNA HOLE

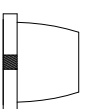
TOP VIEW



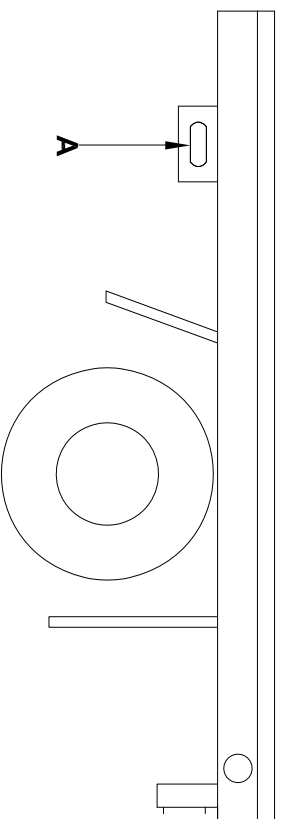
FRONT VIEW



SIDE VIEW



SIDE VIEW



PA DEPARTMENT OF TRANSPORTATION

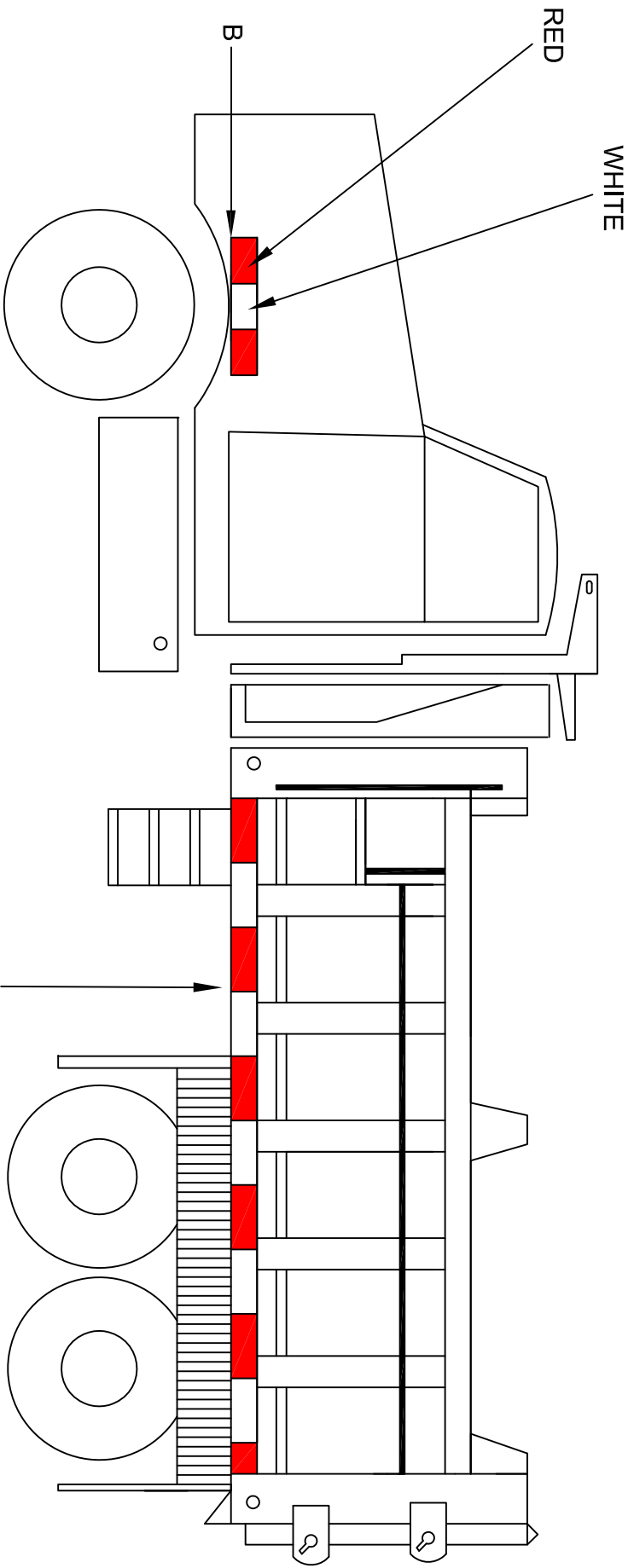
REVISIONS

NO.	DATE	BY	UNIVERSAL TRUCK LIGHTING	TOD	SCALE	EQN-120Q
1	08-06-12	MJW			N/A	
2						
3						

UNIVERSAL TRUCK LIGHTING

DATE	TOD	CHK'D BY	TOD	SHEET
				1 OF 1





**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		DUMP BODY REFLECTIVE SHEETING	
NO.	DATE	BY	
1	12-23-09	PMK	
2	05-20-13	JFM	
3	06-30-14	ACT	

DRAWN BY	TOD	SCALE	N/A	EQN-122
DATE	07-14-09	CHK'D BY	DAA	SHEET 2 OF 2

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.

REVISIONS			CONSPICUITY TAPE STRIPING REQUIREMENTS		
NO.	DATE	BY	DRAWN BY	SCALE	
1	05-16-02	DWG	DLW	N/A	EQN-127A
2	11-03-06	CJW	DATE 11-07-97	CHKD BY DMA	SHEET 1 OF 1
3	01-02-09	MHH			

# SPECIFICATIONS LED WARNING LIGHTS

THE WARNING LIGHTS DESCRIBED HERIN WILL BE USED FOR OFF/ON ROAD EQUIPMENT SUCH AS CARS, TRUCKS, MOTOR GRADERS, LOADERS, ETC. REQUIRING SAFETY LIGHTS. THE FOLLOWING SPECIFICATION DETAILS A 360° HIGH QUALITY SELF-CONTAINED LED MINI LIGHTBAR FOR USE ON A VARIETY OF VEHICLE TYPES:

1. THE LED MINI LIGHT BAR SHALL MEET J845 MAY97, CLASS 1 IN AMER AND SHALL BE AMECA CERTIFIED. THE PERMANENT MOUNT LED MINI BAR SHALL FEATURE 14 MULTIPLE FLASH PATTERNS AND HAVE A MIMIMUM OF A SIX INCH PIGTAIL.
2. THE LED MINI LIGHTBAR SHALL FEATURE SOLID-STATE CIRCUITRY, POLARITY PROTECTION AND NO MOVING PARTS FOR HIGHEST DEGREE OF RELIABILITY. THE MINI LIGHTBAR SHALL BE 12 VDC NOMINAL, STANDARD. THE MINI BAR SHALL HAVE A PUBLISHED AVERAGE AMP DRAW OF 3.6 AMPS AT 12 VDC (10.8 AMP PEAK AMP DRAW). THE MINI LIGHT BAR SHALL ALLOW OPERATION WITHOUT DEGRADATION OF INTENSITY OR FLASH RATE BETWEEN 10-16 VDC.
3. THE LED LIGHTBAR SHALL FEATURE A HEAVY DUTY EXTRUDED ALUMINUM BASE. THE PERMANENT MOUNT LED MINI LIGHTBAR SHALL NOT EXCEED 5 3/32" IN HEIGHT, 17 1/4" IN WIDTH, AND 6 5/16" IN DEPTH. THE LED MINI LIGHTBAR SHALL HAVE A BUILT IN ELECTRONIC FLASHER. THE LED MINI LIGHTBAR SHALL BE CONSTRUCTED WITH SIX (6) 400 SERIES LINEAR SUPER-LED WITH DEUTSCH CONNECTOR MODULES RESULTING IN A TOTAL OF 72 SUPER LED'S. THE LED MINI LIGHTBAR SHALL USE BOLTS FOR PERMANENT MOUNTING. THE LED MINI LIGHTBAR DOME SHALL FEATURE A SMOOTH OUTER SURFACE AND MADE OF POLYCARBONATE MATERIAL.
4. THE LED MINI LIGHT BAR SHALL BE WARRANTED FOR SIXTY MONTHS BY THE MANUFACTURER FROM THE DATE INSTALLED.

## PA DEPARTMENT OF TRANSPORTATION

REVISIONS			LED WARNING LIGHT		
NO.	DATE	BY			
1	05-29-07	KNH			
2	07-30-08	MHH	<small>DRAWN BY</small> DWG	<small>SCALE</small> N/A	EQN-210B
3	01-07-10	TOD	<small>DATE</small> 04-04-02	<small>CHK'D BY</small>	SHEET 1 OF 3
4	04-05-12	TOD			

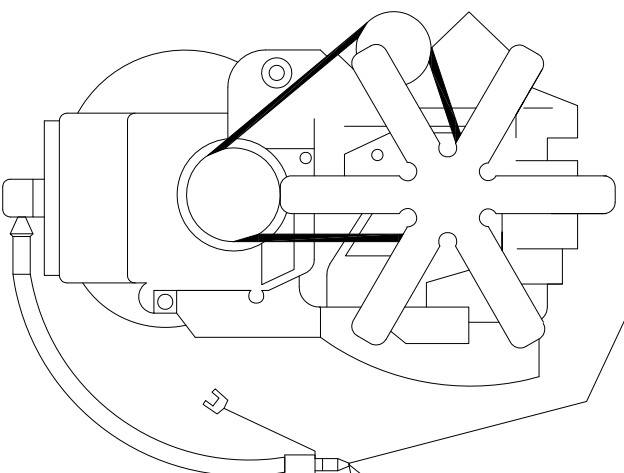
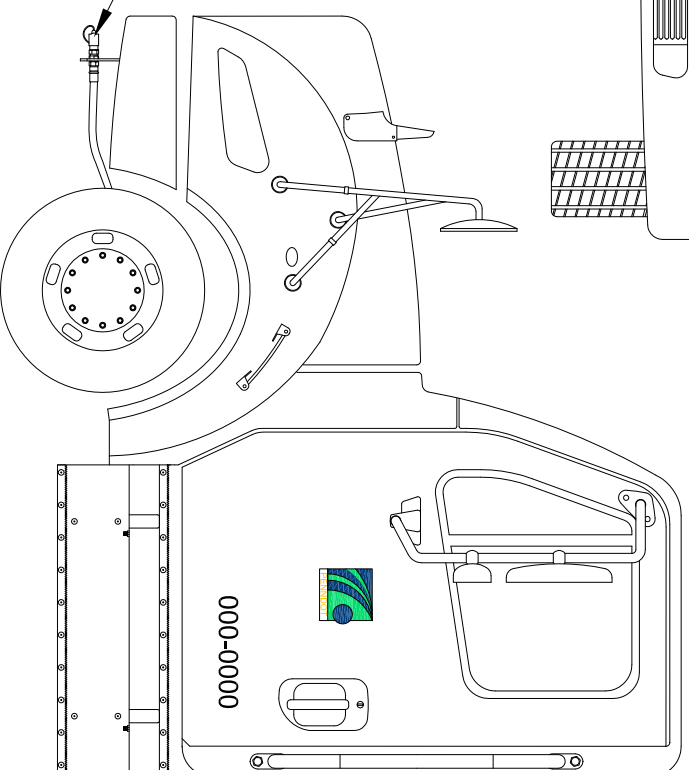
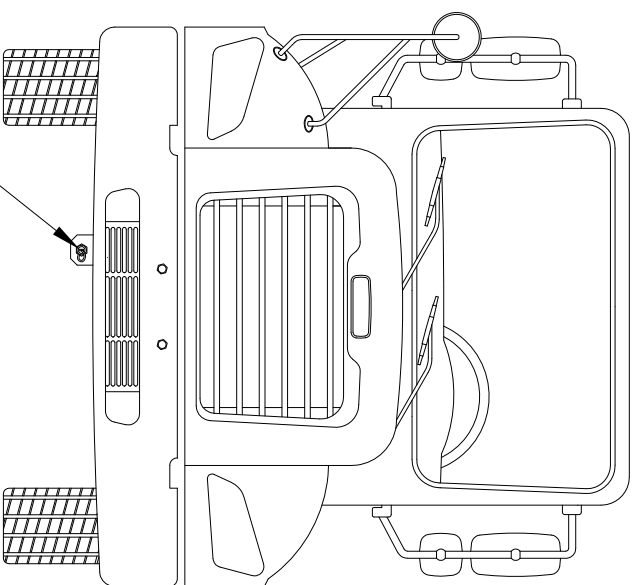
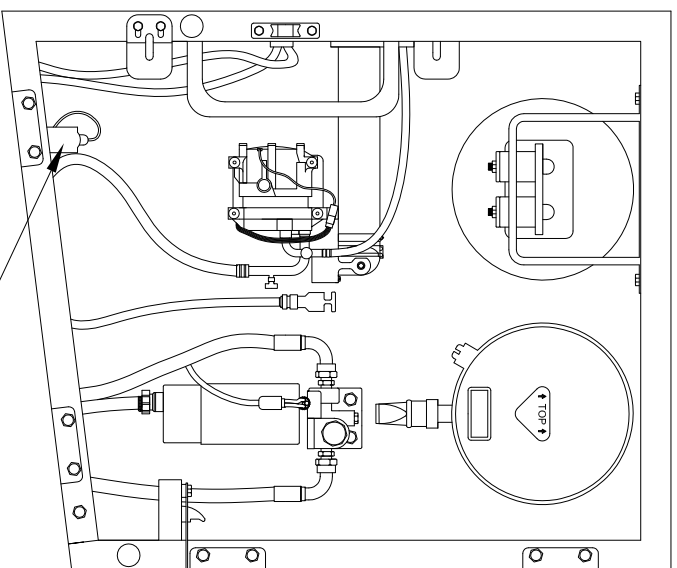
# SPECIFICATIONS LED WARNING LIGHTS

5. UNIT MUST BE CAPABLE OF BEING MOUNTED ON A SURFACE, OR ON A SELF-LEVELING MOUNT. ALL MOUNTING HARDWARE AND ROOF MOUNTING BOLTS SHALL BE INCLUDED. A SOFT RUBBER GASKET OR MOUNTING PAD SHALL BE PROVIDED TO FORM A WEATHERPROOF SEAL BETWEEN THE HOUSING AND VEHICLE ROOF, AFFORDING MAXIMUM VIBRATION ISOLATION.

IMPORTANT: ANY EXCEPTION TO THE ABOVE SPECIFICATIONS MUST BE CLEARLY STATED IN YOUR BID OR IT SHALL BE CONSIDERED AS "NON-RESPONSIVE".

REFERENCE: WHELEN MODEL 01-0687181A1P OR A PRE-APPROVED EQUAL.

<b>PA DEPARTMENT OF TRANSPORTATION</b>						
<b>REVISIONS</b>			<b>LED WARNING LIGHT</b>			
<b>NO.</b>	<b>DATE</b>	<b>BY</b>				
1	05-29-07	KNH				
2	07-30-08	MHH	<small>DRAWN BY</small> DWG	<small>SCALE</small> N/A	EQN-210B	
3	01-07-10	TOD	<small>DATE</small> 04-04-02	<small>CHK'D BY</small> TOD	SHEET 2 OF 3	
4	04-05-12	TOD				



DISCONNECT  
COUPLING  
FLOCS  
ENGINE KIT

**PA DEPARTMENT OF TRANSPORTATION**

**REVISIONS**

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

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

SCALE	DATE	CHK'D BY
N/A	08-22-97	WHM



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	SCALE	CHK'D BY	
1	07-01-03	BLD	DLW	N/A	EQN-351A
2	10-20-06	CJW			
3	06-19-13	JFM			

## 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

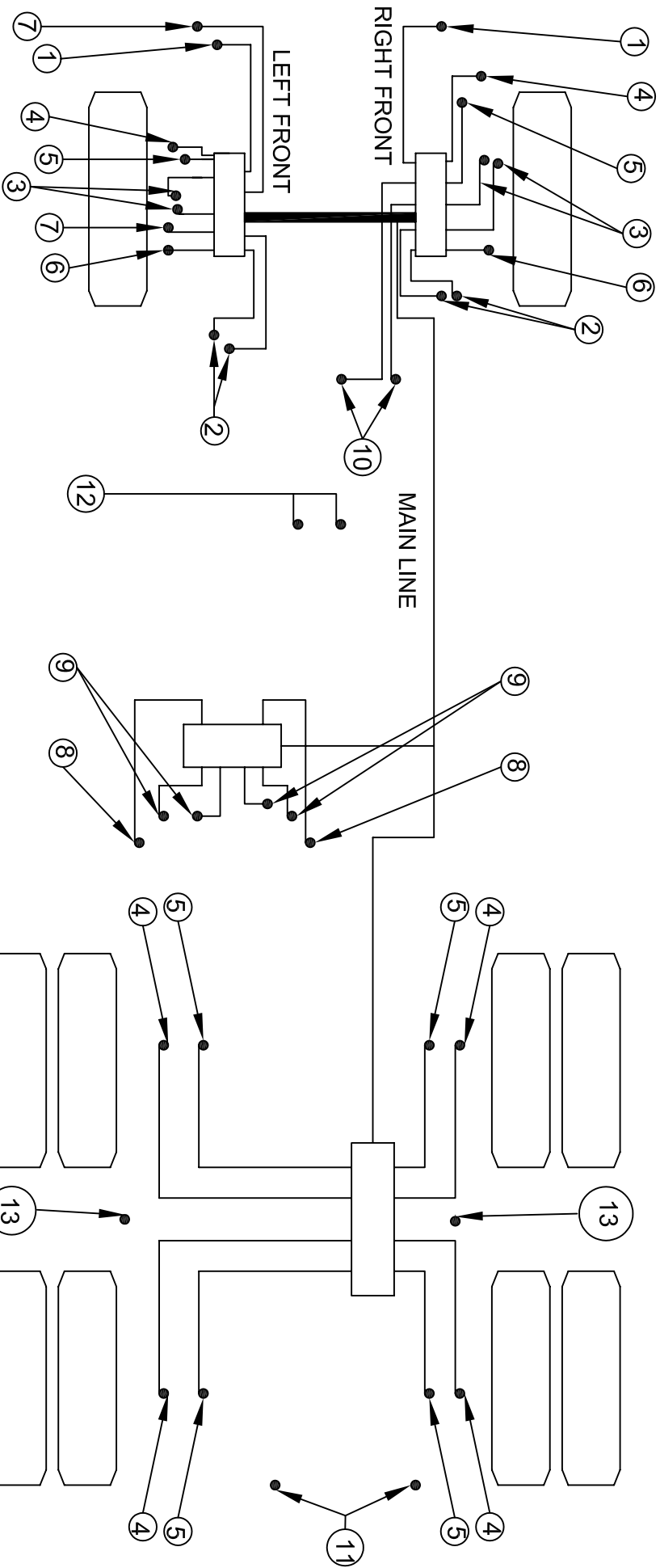
- The system pump shall be capable of delivering NLGI #2 grease over a temperature range of minus 10 degrees Fahrenheit to 120 degrees Fahrenheit.
- The pump shall have an integral adjustable timer to change the grease delivery intervals as needed.
- The system shall use a fused electric pump, either 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 6-8-09	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

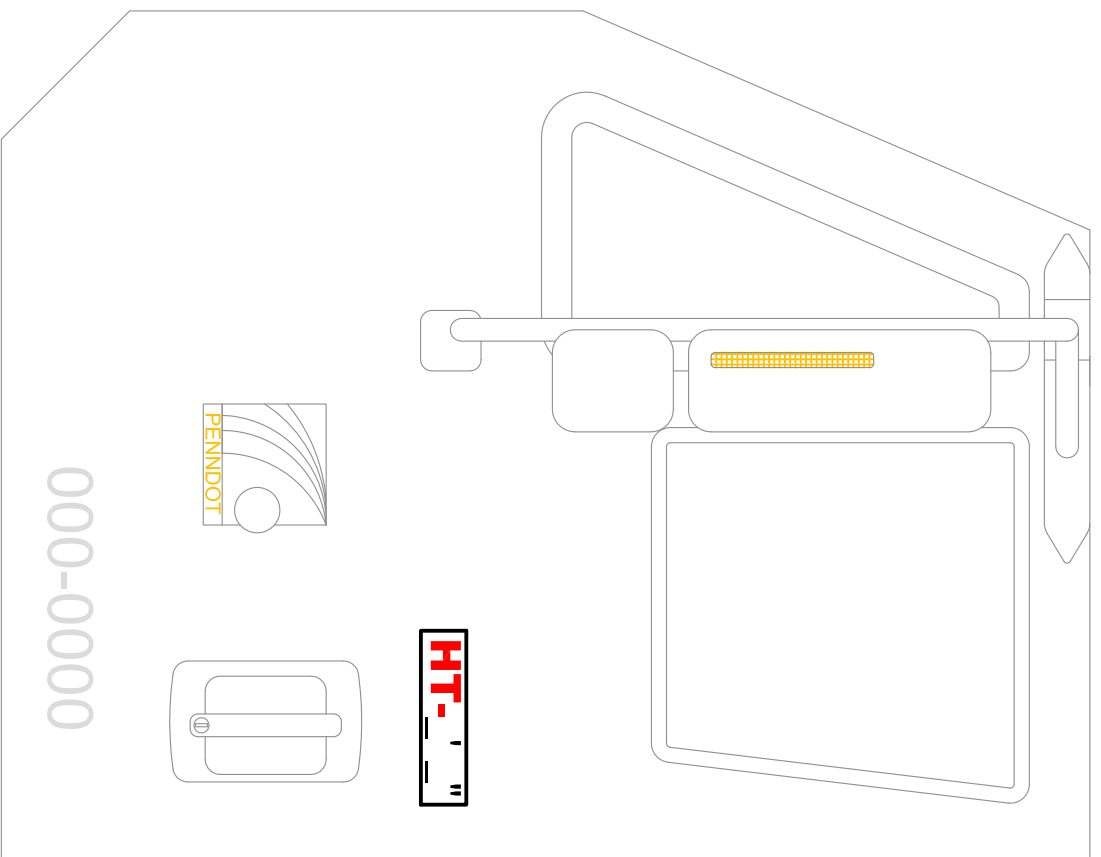
## PA DEPARTMENT OF TRANSPORTATION

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

NO.	DATE	BY	SCALE	SHEET
1	12-15-00	GAH		
2	01-02-07	CJW		
3	06-09-09	TOD		
4				
5				

DRAWN BY	SCALE	EQN-501
GAH	N/A	
CHK'D BY	LHA	SHEET 2 OF 2
DATE	8-31-99	





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	DESCRIPTION
1	07-06-17	HMR	MAX TRAVEL HEIGHT STICKER
2			
3			

MAX TRAVEL HEIGHT STICKER

DRAWN BY	JFM	SCALE	2	EQN-552
DATE	05-29-13	CHECKED BY	INT	SHEET 1 OF 1

