

Municipal Specifications for KEITH® WALKING FLOOR® Unloader

A. Drive Mechanism: The hydraulic cylinder shafts must be attached to the frame with four (4) 5/8" bolts and will remain stationary. The 2" x 6" or 2" x 8" cross drives are clamped directly to the hydraulic cylinder barrels, creating a barrel-indexing system. The cross drives shall be continuously supported by support rails which are attached to the center frame. The cylinders on each cross drive must be independently removable and interchangeable. The system shall have a moment of inertia no less than 250 cmh.

B. Hydraulic System: Six (6) cylinders with 3" or 3.5" diameter bore, 1.771 OD x 1.125 ID 1045 induction hardened (50Rc minimum and 10 RMS finish) piston rods with 10" stroke. Each unit of two (2) cylinders is connected at the base of each cylinder. All hydraulic lines on the drive unit must be steel hydraulic tubing (no hoses). Each piston shall have two (2) piston seals (good from minus 10 degrees Celsius to 110 degrees Celsius) with heavy-duty backup rings and a high strength Orkot wear ring (good to 400 degrees Fahrenheit). Each cylinder head shall have two (2) loaded rod wipers, one (1) high-strength Orkot wear ring and one (1) energized rod seal with heavy-duty backup ring. The chrome rod exposure shall not exceed 12" .

C. Drive Mounting: Hydraulic drive mechanisms must be mounted in a center frame, which is attached to the trailer suspension sub-frame, or is a continuation of the suspension sub-frame.

D. Floor Slats: Extrusions are to be extruded from 6061 aluminum to a T6 temper and oven aged. The chemical properties are as follows; Al-98%, Si-0.4-0.8%, Fe-max-0.7%, Cu-0.15-0.04%, Mn-max-0.15%, Mg-0.8-1.2%, Cr-0.04-0.35%, Zn-max-0.25%, Ti-max-0.15%. Flooring shall be one of the following options:

1. **Impact medium duty;** Top of each floor slat to be .188" minimum thickness with two .375" wide x .500" overall thick outside ridges.
2. **Impact medium duty CWS;** Top of each floor slat to be .188" minimum thickness with two .375" wide x .500" overall thick outside ridges, one .907" wide x .500" ridge in the center.
3. **Impact heavy duty;** Top of each floor slat to be .250" minimum thickness with two .500" wide x .750" overall thick outside ridges.
4. **Impact heavy duty CWS;** Top of each floor slat to be .250" minimum thickness with two .500" wide x .750" overall thick outside ridges, one .750" wide x .750" ridge in the center.

E. Floor Slat Mounting: Each floor extrusion shall be secured to the drive mechanism on 3.65" centers, with six (6) minimum, 5/16" x 1" Allen type counter sunk bolts, grade 8 with self-locking nuts. Or it shall be through a corrugated clamping system of sufficient force as to form the leg of the extrusion into it's corrugated shape.

F. Floor Seal: Seal shall be pulltruded of a urethane material with a minimum of 10 % additive of "Slickum".

G. Sub-Deck: The floor sub-deck tubing shall be 1"x1" square steel tubing or 1"x1" aluminum channel with a minimum of 12" 1"x1" solid bar at the rear of the trailer.

H. Bearings: The following explanation of bearings is for four (4) different types that have specific purposes. These bearings can be used together or separately in a variety of ways.

Type A: Each aluminum extrusion shall be supported by the high-density polyethylene bearings in the center and on each side of the floor slat with plastic between bottom foot of the extrusion and the trailer cross member. Minimum bearings surface 15.45 square inches (9.07 square inches on the top of the bearing, 3.19 square inches on each side of the lower portion on the cross sill). The two tabs on each side of the cross sill that hold the bearings in place are at least 1.5 inches in length.

Type B: Additionally a splash bearing, for preventing road grime wear, is to be placed in between the cross members over the axle areas and at the kingpin.

Type C: A row of polyethylene hold down bearings shall be installed between the last two cross members closest to the rear of the trailer.

Type D: A "Tee" configured hold down bearing 12" long should be installed on the rear thresh hold of the trailer.

I. Wet Kit: A hydraulic pump driven off a PTO mounted on the truck tractor transmission shall power hydraulic system. Minimum pump rating to be 30 GPM @ 3000 PSI (can be up to 60 GPM @ 3000 PSI depending on unloading speed desired). This system is to have an external pressure relief valve mounted to the oil reservoir via " hose that is "T" into the 1" pressure line. The suction line shall be 2" from the tank to the pump with no reducers. The return line shall be a minimum of 1" from the backside of the 1" male quick coupler to the filters and 1-1/2" minimum from the backside of the filters to the reservoir with no reductions. The truck mounted hydraulic unit shall be provided and installed by hauling contractor.