

DOUBLE FLIP SPECIFICATIONS

Hydraulic, fully automatic trailer covering system to be Donovan Enterprises' **DOUBLE FLIP** model for use with all open top trailers.

INSTALLATION AND OPERATION

- Fits on trailers up to 53' long and 94" to 102" wide.
- Lids rotate from both sides allowing the use of a solid vinyl tarp.
- Hinges mount on the both sides of trailer, allowing an overlap of both lids in center.
- Actuator assembly hydraulically rotates arms 270° moving tarps from top of trailer to flush against sides of trailer without the use of springs or chains.

HINGE ASSEMBLIES

There are six hinge assemblies located on six separate mounting brackets (2 hinges per assembly at front and rear of trailer; 2 hinge per assembly at center of trailer).

Each hinge contains the following parts:

- (1) 1/2" CRS hinge pin.
- (2) 1/2" inside diameter oil impregnated bronze bushings.
- (1) 1/2" schedule 80 hinge sleeves.
- (1) 1/2" – 13 x 1/2" bolt
- (1) 1/2" lock washer

LADDER ASSEMBLY

Six ladder assemblies per side get welded together to fit trailers up to 53'.

- (2) 1/2" – 14 gage square tubing 88" long welded together with (4) equally spaced 1/2" – 14 gage square tubing 9" long per ladder assembly.
- Ladder assemblies connected together with "H" connector made from (3) 1/2" – 14 gage square tubing welded together.

MOUNTING BRACKETS

Tarp mechanism is attached to top rail of trailer by three mounting brackets down each side (front hinge, center hinge, and rear hinge) located at three places along the length of the trailer.

- Front and Rear hinge
 - (1) 1/2" 3 X 3 angle 44" long.
 - Mounts on the top lip of the trailer at the front and rear of the trailer length.
 - (4) Hinge sleeves attached to the top section of the 3 X 3 angle. This allows two hinges to be installed to each front and rear hinge assembly.
- Center hinge
 - (1) 1/2" 3 X 3 angle 36" long.
 - Mounts on the top lip of the trailer approximately in the center of trailer length.
 - (2) Hinge sleeve attached on top of the 3 X 3 angle. This allows one hinge to be installed to each center hinge assembly.

HYDRAULIC SYSTEM

Hydraulic system works off trucks current hydraulics using a diverter valve. This valve diverts approximately 2 gallons per minute to the tarp mechanism, and supplies remaining flow to the trucks system.

- 2 gallon per minute flow rate.
- 1900 psi maximum operating pressure.
- 2 lever control valve.
- (6) ½" hydraulic hoses (5000psi) with hose fittings (four at 12' and two at 6')

SELF-CONTAINED HYDRO-ELECTRIC POWER UNIT OPTION

12-volt or 24-volt (DC) hydro-electric power unit mounts to a mounting bracket supplied. Power unit characteristics are:

- 1.25 gallon per minute flow rate.
- 1900 psi maximum operating pressure.

Also includes:

- Pre-fabricated mounting bracket.
- (5) ½" hydraulic fittings.
- (4) ½" diameter hydraulic hoses (5000 psi) with hose fittings (one 30 ½" section and one 26 ½" section).
- (2) 12' long section of double strand 4-gage electrical wire with crimp on lugs and a quick disconnect.
- (1) Bi-directional remote operating marine grade switch with 12' of cord.

ACTUATOR

- (1) Actuator unit
- (2) Horizontally mounted hydraulic cylinders.
- All linkages use oil impregnated bronze bushings.
- (2) Actuating arms drives the lid using 3 ½" diameter "ultra high molecular weight" plastic roller on 1 ½" diameter shaft.

LIDS

There are six lid arms (two front lid arms, two center lid arms, and two rear lid arms) with adjustable lid extensions that get welded in place to accommodate trailers from 94" to 102" wide.

- Front lid arm
 - (2) 1 ½" – 14 gage square tubes with a 90° angle held together with multiple 1 ½" gage square tubes to achieve overall dimensions of 37 1/2" long leg, 33 ½" short leg and 11 ½" wide, with 1/8" thick gusset in corners.
 - 38" of trolley track welded to front of lid.
- Center lid arm
 - (2) 1 ½" – 14 gage square tubes 24" long held together with two 1 ½" – 14 gage square tubes 8 ½" long.
 - (1) 1 ½" – 14 gage square tube 22 ½" long attached to make overall length 32".
- Rear lid arm
 - Same as front lid without the 38" long roller track and 1/8" thick gusset

TARP

Two 54" wide lengths of tarp material are used to accommodate trailers up to 53' long and 94" to 102" wide.

- Kit includes two tarps made of solid vinyl or a black PVC mesh 54" X 53'.
- Material is UV protected.
- Edges are fully hemmed with grommets down both sides and ends.

FINISH

All steel components must be finished with an alkyd enamel primer and two part alkyd enamel finish.

HARDWARE

Covering system is supplied with most, but not necessarily all, of the nuts, washers, mounting brackets, installation instructions, warning stickers/labels, and miscellaneous hardware necessary to install the mechanism onto trailer. Due to the various trailer configurations, it will be necessary to purchase approximately 2 dozen 1/2-13 bolts (length of bolts will vary by width of trailer's side wall and side wall's top lip).