

# **SPECIFICATIONS**

## **GENERAL**

The roof panel installer consists of a diesel driven, two (2) wheel drive, four wheel steer undercarriage with a turn table mounted four (4) section telescopic column onto which a four (4) way tilt and four (4) way traverse motion support frame is mounted.

The machine has the capability to self-load two (2) 30,000 pound panels, which have been pre-assembled onto a panel dolly and transported to the panel installation location.

The machine is supplied with an alarm for reverse motion, highway lights, toolbox, work lights to light up pedestal and toolbox area, rearview west coast mirrors, a remote console with 40 feet of cord for loading and unloading, two (2) radio remote control consoles with alternated frequency, and six (6) panel dollies. One panel dolly is set up as a work platform.

## **LOADING**

The machine is aligned with pre-loaded panel dolly. The two (2) rear out and down stabilizers are out. The manual or remote controlled tilt frame is tilted approximately 19 degrees so that the tilt frame becomes a ramp and guide for the roller mounted panel dolly. There are two (2) swing away extensions which are manually positioned and locked in place with a pin. A winch with two-part cable block is then attached to the panel dolly. The dolly is winched onto the tilted tilt frame. Upon reaching

the travel location on the tilt frame the panel dolly is secured with a hydraulically held cylinder and latch. The hydraulically powered tilt frame and cylinders then level the load for transport to the panel installation location. The tilt frame and tilting cylinders have been designed so that the tilt frame is in contact with the ground when loading. Also, in the case of loading off a trailer which is 60" above ground the tilt frame must rest on the trailer.

## **TRANSPORT**

The machine is equipped with a 235 HP diesel engine driving through a power shift transmission to a planetary reduction steering axle. Alignment at panel installation location is accomplished by either two (2) wheel, four (4) wheel synchronized or four (4) wheel crab hydraulic power steering.

## **PANEL INSTALLATION**

With the machine preliminarily aligned, the four (4) vertical stabilizers are set levelling the machine and for minimizing movement of the tilt frame during placement of panel. The column is then raised and the orientation of the panel is adjusted for angle, position and rotation via radio remote controls into location for securing panel to hangers. The tilt frame is then lowered and the machine is relocated to second panel location and the above process is repeated.

## **HOIST**

The hoist is a Braden model PD15 with planetary reductions and fail safe brake. The hoist has 15,000 lb single line pull @ 200 fpm line speed based on 50 gpm system flow. The unit reeved 2part providing 30,000 lb hoisting capability from 0 to 50 fpm hook speed.

## **HOOK BLOCK**

A hook block for 2 part reeving with one (1) 10" sheave for 9/16 dia cable.

## **CONTROLS**

All functions controlling orientation of the panel dolly are variable. Controls are manual, cable remote, or radio remote, powered by pressure and flow compensated variable displacement hydraulic pump. Gear pump supplies hydraulic pressure and flow for steering, power brakes and stabilizers.

Remote cable, radio or cab control lockout switch located in cab. Manual controls located behind left front wheel on operator's side. For visibility remote electric hard wire controls with 40' cord supplied for loading and emergency positioning of panels. Electric hard wire controls for rotation and tower lift permanently located in cab. Three position rotary switch installed to limit operation from one control console only.

## **WORK PLATFORM**

One panel dolly modified for work platform purpose, will have 42" high railing posts (1 1/4 inch HSS) set into and pinned into pockets with cable eyes for cable rails. Pinned to the posts are 1/8 inch by 5 inch high plate for toe stop. The floor is grip span non-skid material set flush to the top of trolley main support beams. There are doors set into the railing system and a ladder for loading and unloading personnel. There is a 10 person maximum at any one time without any other loading.

## **CAPACITIES**

The AR60PH Panel Installer can carry 60,000 lbs (two panels on a dolly)

Panel Dolly weighs:	10,000 lbs
Tilt Frame weighs:	12,000 lbs
Total w/o Dolly weighs:	71,000 lbs
Front Axle:	39,400 lbs
Rear Axle:	31,600 lbs
Fuel Tank capacity:	95 US Gal
Hydraulic Reservoir:	95 US Gal
Engine Oil:	29 qts (27.5 Ltrs)
Transmission:	38 qts (36 Ltrs)
Coolant:	62 qts (58.5 Ltrs)

## **DIMENSIONAL & PERFORMANCE DATA**

Capacity: 60,000 lbs. (2 panels)  
Lift height: 23'-0" top of panel dolly  
Loading Height: 16'-9" to top of front  
winch sheave

Loading Angle: 19 degrees

Travel:

Height w/o Dolly: 117"

Width w/o Dolly: 11'-0"

Length: 46'-8"

Undercarriage:

Height, Cab: 82"

Width: 121"

Length: 353"

Wheel base: 180 5/8"

Gauge: 8'-6"

Tires: 16:00R x 25-LI 177  
BSTN BKT (foam  
filled) added 800 lbs  
per tire

Ground Clearance: 12"  
(Under center bearing)

Cab: FOPS design  
Glazed for 270 degree visibility  
with tinted safety glass, driver  
controls, front wiper and hot  
water heater. Rearward vision  
blocked by power unit

Engine: Caterpillar Model 3306 DI-TA,  
rated 235HP @ 2200 RPM.  
Equipped with catalytic  
converter for underground  
operation. MSHA approved.

Transmission: Funk FL-2584E40DA  
Power shift 8-speed  
forward, 4 reverse

Axles:

Front: Meritor (Rockwell) Model PSC  
1794 with planetary final

Panel Dolly: Base dolly 10'-2" wide with  
outriggers to 14'-0" wide  
Dolly accommodates  
panel size; 8'-0" to 14'-0"  
wide variable to 41'-0"

Winch: Braden PD-15 15,000 lb line  
pull, rigged 2-part  
reduction, hydraulic brakes  
and steering.

Rear: Non-powered with hydraulic  
brakes and steering NSC 1790

Travel 0% grade 22 MPH (no load)

Speed: 6% grade 6 MPH (loaded)

Max loaded Travel Speed:

7 MPH with 60,000 LB load

9 MPH with 30,000 LB load

Brake, Parking:

Two (2) Mico Spring Applied  
Hydraulic Released brakes. Circuit  
interlocked with transmission  
engagement.

Column (Tower):

Raise/Lower: Three (3) stage  
telescopic hydraulic  
cylinder with trunnion  
mount

Swing: 90 degree maximum  
rotation, powered by  
hydraulic cylinder

Tilt Frame Movement:

For/Aft Angle Adjustment:

Minus 23 degrees to plus 5 deg.

On pivot shaft, powered by two (2)  
hydraulic cylinders, variable control

Side/Side Angle Adjustment:

Minus 5 degrees to plus 5 degrees

On pivot shaft, powered by one (1)  
hydraulic cylinder, variable control

Fore/Aft Travel:

Twelve (12) inch travel plus or minus, powered by hydraulic  
Eight (8) inch travel plus or minus, power by two (2) hydraulic cylinders, slides on two (2) five (5) inch diameter pins with nylatron bushings

Lift Speed: 0-16 fpm

Load Speed (up ramp) 0-42 fpm

Swing Speed: 45 degrees, 30 seconds, variable control

Stabilizers: four (4) with twenty-four (24) inch penetration (36 inch stroke)

Spaced:

Front: 9'-0"

Rear: 9'-0" to 17'-0"

Distance front to rear: 22'-0"

cylinder, movement of panel dolly, variable control

Side/Side Travel:

Paint: X1105S Allcyl 98  
Champion Yellow

Work Platform:

Size: 18 ft x 40 ft

Rail height: 43 inches

Off Center loading Max:

5,000 lbs @ 8 ft from center

Loading Limit: 302 lbs/sq ft.

Removable Rails: All rail posts removable by removal of one post pin

Rails are individually removable