HEDWELD USA INCORPORATED

Trilift®

Maintenance Support Equipment

Transmission Hoist MKII

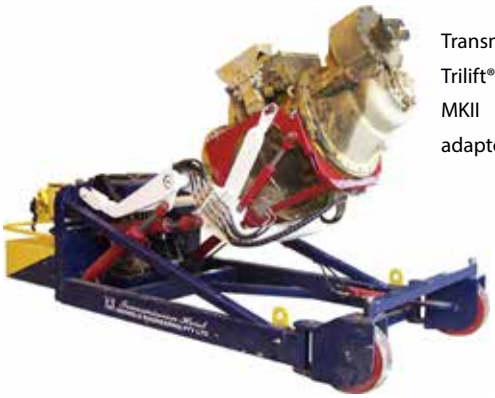
The Trilift® Transmission Hoist MKII *(Part No. TL12010)* has been designed to overcome the practical difficulties in removing and installing transmissions and differentials in heavy mining and earthmoving equipment without removing the dump body.

Hedweld has designed this unique transmission hoist to be a main frame carrier with specific cradles, adaptors and jigs to suit Cat 776/777, 785, 789, 793 B, C & D models, 777G, 793F and Kress Haulers.

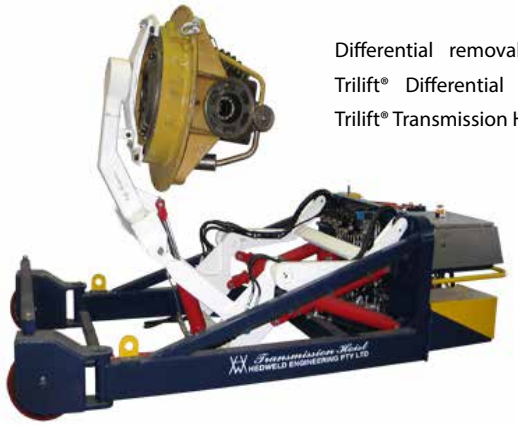
Australia Patent No. 778536, Canada Patent No. 2357133, Chile Patent No. 43.538, US Patent No. 6640408

Through innovation we provide improved safety and efficiency

www.hedweld.com



Transmission removal using Trilift® Transmission Hoist MKII with a cradle and adaptors



Differential removal using the Trilift® Differential Jig on the Trilift® Transmission Hoist MKII

Features

Traditionally a transmission and differential were removed and installed by lifting them through the top of the chassis rails. The Trilift® Transmission Hoist MKII is capable of removing and installing these components by lowering through the bottom of the chassis eliminating the need for tray, water tank or belly dumper removal.

The standard Transmission Hoist MKII is 36V DC.

Functions

Hoist functions:

- Hoist raise and lower
- Cradle tilt
- Jig tilt
- Transmission rotate
- Drive forward and reverse (variable speed)
- Rear steering through 115°
- Front steering and side shift

The Trilift® Transmission Hoist MKII lowering the transmission through the bottom of the chassis.

Jigs and Tooling

Jigs and additional tooling required for the Trilift® Transmission Hoist MKII include:

Stands or Ramps

- Trilift® Wheel Stands, or
- Trilift® Wheel Ramps.

Optional Cradles and Adaptors

- A Transmission Cradle and Adaptors to suit Cat 777-793 B, C & D and Kress Haulers.
- A Transmission Cradle and Adaptors to suit Cat 777G.
- A Transmission Cradle and Adaptors to suit Cat 793F.

Optional Differential Handling

- A Differential Jig to suit Cat 785-793 and Kress Haulers.
- A Differential Adaptor to suit Cat 777.

Optional Final Drive Handling It includes:

- A Final Drive Base Frame.
- A Final Drive Jig for CAT 777.
- A Final Drive Jig for CAT 785 -793 B, C & D.

Safety Benefits and Cost Savings

- Provides a safer working environment for all maintenance staff to assist mine maintenance workshops achieve zero harm.
- Allows all bays in the workshop to be utilized to maximise workshop efficiencies.
- Reduces the number of personnel required to perform maintenance tasks freeing up labor for other duties.
- With the introduction of the Transmission Hoist MKII, the maintenance time of your equipment will be decreased. This means that your equipment will be spending less time in the workshop and more time moving overburden and mineral.
- Eliminates the need for removal of chassis mounted equipment.
- No mobile cranes required during removal/installation.
- Eliminates the need to work under suspended loads or at heights.

Precise control

By utilising the latest hydraulic control technology we have developed the Trilift® Transmission Hoist to give the operator precise control and accurate movement. The user-friendly radio remote has proportional control of the hydraulic valves providing the operator with true feel and inch perfect accuracy. By using the remote control the operator has improved visibility and is removed from the danger zone.

At Hedweld we have a vision that all workshop bays are being used efficiently, utilizing specialised tooling that is purpose built for component handling, with the ultimate outcomes of:

minimizing workplace injuries and maximizing availability.

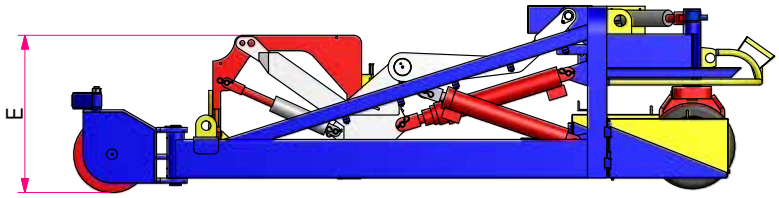
Specifications

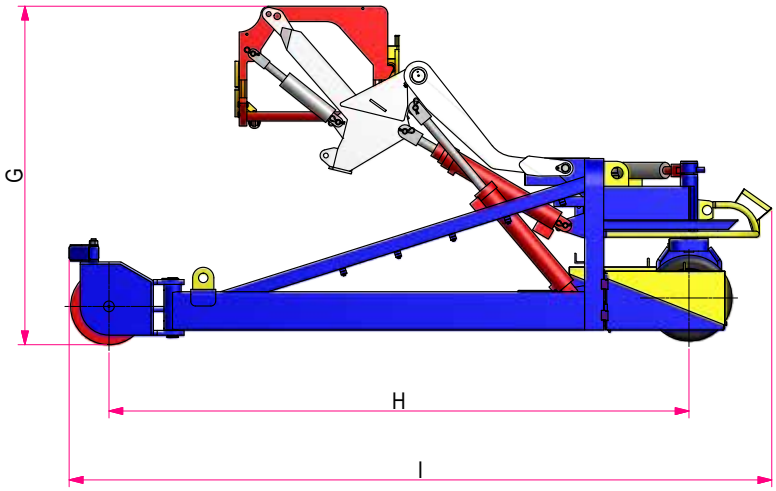
The Trilift® Transmission Hoist MKII is compliant with the following standards:

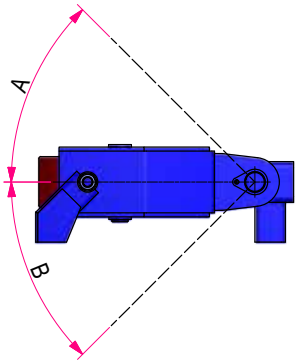
- AS 3990-1993 Mechanical equipment-steelwork.
- AS/NZS 1554.1:2011 Structural Steel Welding.
- AS 1418.1:2002 Cranes, hoists and winches.
- AS/NZS 1163:2009 Structural steel hollow sections.
- AS/NZS 1594:2002 Hot-rolled steel flat products.
- AS/NZS 3678:2011 Structural steel.
- AS/NZS 3679.1:2010 Hot-rolled bars and sections.
- AS/NZS 1252:1996 High strength steel bolts with associated nuts and washers for structural engineering

Key Dimensions

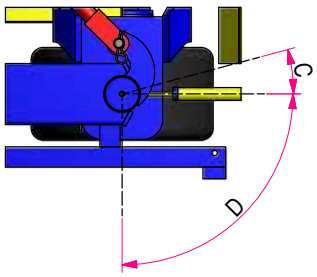
A	Front right steer angle	45°	-
B	Front left steer angle	45°	-
C	Rear left steer angle	15°	-
D	Right rear steer angle	90°	-
E	Minimum height	323in	820mm
F	Overall width	61 1/2in	1564mm
G	Maximum height	69 1/2in	1766.6mm
H	Wheel base	119in	3027mm
I	Overall length	144 1/4in	3666.6mm



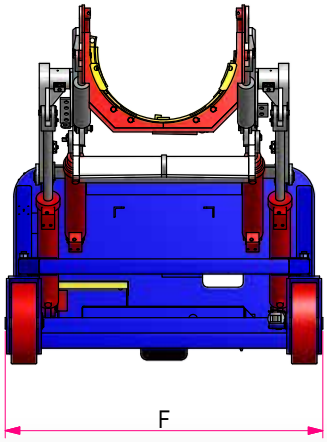




FRONT STEERING DETAIL



REAR STEERING DETAIL



Key Operating Data

Working Load Limit*	8818 1/2in	4000kg
High Travel Speed	18 feet/min	5.5m/min
Low Travel Speed	9 feet/min	3.0m/min
Tare Weight (no load)	6173in	2800kg
Hydraulic Relief Pressure	1650psi	114bar (11.4 Mpa)
Hydraulic tank capacity	12 gal	44 liters

*Varies when using jigs (see separate jig specification sheets)

MHG00192 04082021

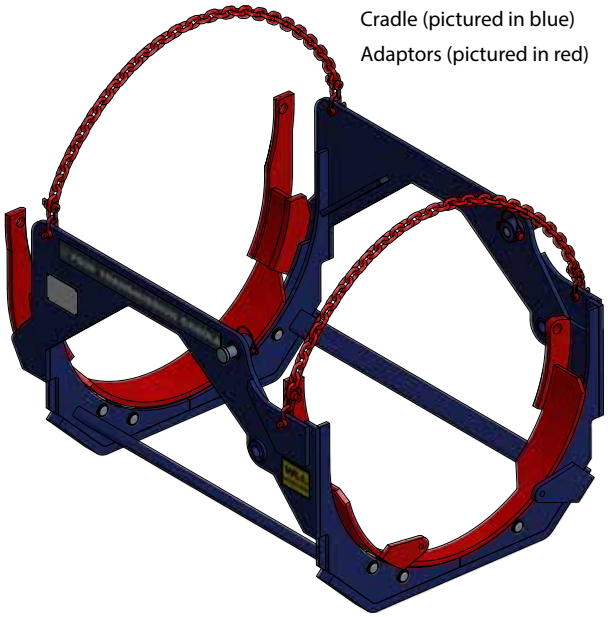
Transmission Handling

Cradles & Adaptors

To optimize the use of the Trilift® Transmission Hoist MKII Hedweld have designed and manufactured specific cradles and adaptors to suit Cat Trucks and Kress Haulers.

Cradle and Adaptor options include:

- A Transmission Cradle to suit Cat 777-793 B, C & D and Kress Haulers *(Part No. HW75310)*
  - o with Adaptors to suit:
    - o Cat 777 B, C & D *(Part No. HW52100)*
    - o Cat 777 G *(Part No. HW52101)*
    - o Cat 785-793 B, C & D *(Part No. HW52000)*
    - o Kress Haulers *(Part No. HW52050)*.
- A Transmission Cradle with Adaptors to suit Cat 793F *(Part No. HW52051)*.



Differential Handling

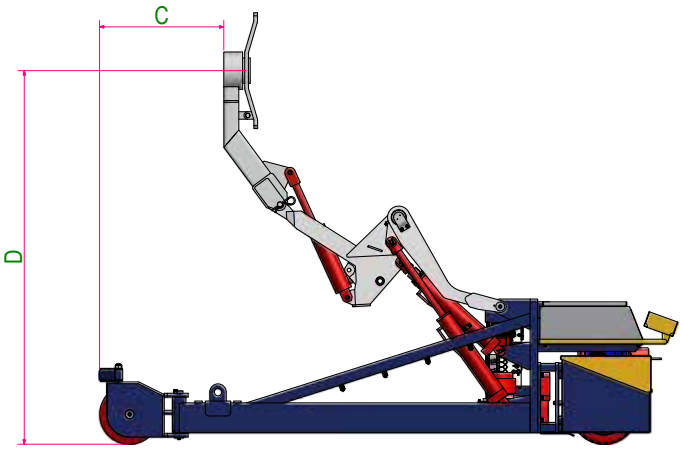
Differential Jig

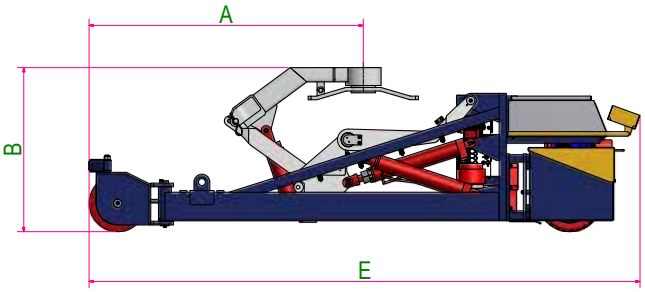
To remove a transmission and differential using the Trilift® Transmission Hoist MKII is a two step process, first the transmission must be removed then the differential. They cannot be removed together due to the confined space.

The Differential Jig can be easily attached to the Transmissions Hoist MKIIs main frame carrier and hydraulics using an overhead. It is remote controlled.

Differential Jig and Adaptor options include:

- A Trilift® Differential Jig *(Part No. HW75305)* to suit Cat 785-793 and Kress Haulers:
  - o with an Adaptor to suit Cat 777 *(Part No. HW75306)*.





Operating Data to suit Cat 785-793

Working Load Limit	4,078lbs	1,850 kg
Tare weight	330lbs	150 kg

Key Dimensions to suit Cat 785-793

A	Retracted centre distance	75.9in	1928mm
B	Retracted min height	45.4in	1153mm
C	Extended offset	32.7in	832mm
D	Extended centre distance	98.4in	2501mm
E	Overall length	152.5in	3874mm

MHG00192_2 22032018

Transmission Handling

Wheel Stands or Wheel Ramps

To allow clearance for the removal of the transmission from under a Cat Truck or Kress Hauler using the Trilift® Transmission Hoist MKII, **the rear of the vehicle needs to be raised.**

As the rear of the truck is the access point for the Trilift® Transmission Hoist MKII jacking the truck is not an option. To raise the truck or hauler Trilift® offers two solutions:

- Trilift® Wheel Stands *(Part No. TL12101)* or
- Trilift® Wheel Ramps *(Part No. TL12103)*.

A Trilift® Wheel Ramp

Wheel Stands

The **Trilift® Wheel Stands** *(Part No. TL12101)* are placed under the outside set of wheels. This allows clearance for the removal of the transmission under the differential.

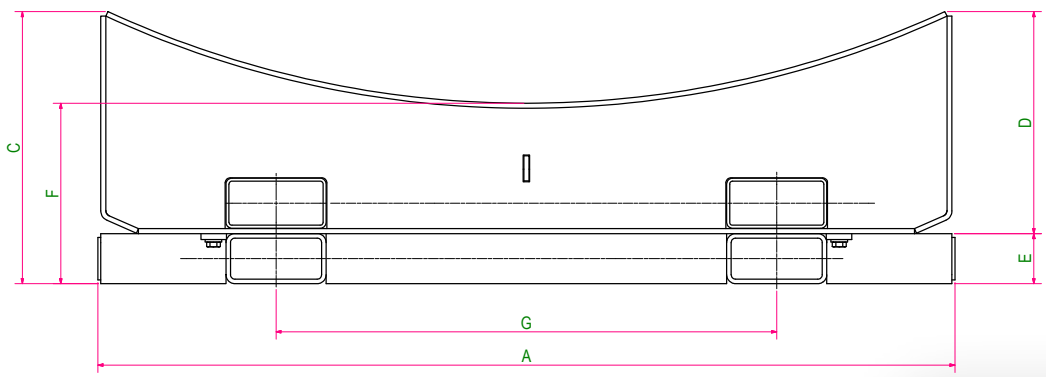
Using 4 inch packers *(Part No. TL12110)* the stands are adjustable in height to suit the various models of Cat trucks.

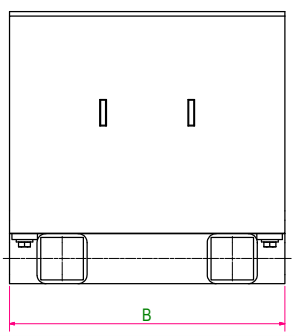
Key Operating Data

Working Load Limit	45T	
Tare Weight	1896lbs	860kg

Wheel Stand and Packer - Key Dimensions

A	Overall length	68in	1715mm
B	Overall width	22in	550mm
C	Overall height	22in	545mm
D	Stand height	18in	445mm
E	Packer height	4in	100mm
F	Stand lift height	14in	360mm
G	Fork tyne width	39in	1000mm
	Max recommended tyre diameter	157in	4000mm





Jigs and Tooling

Wheel Ramps

The **Trilift® Wheel Ramps** *(Part No. TL12103)* allow the truck or hauler to be reversed into place and chocked in a safe and efficient manner. They are designed to accommodate the various models of Cat Trucks and Kress Haulers.

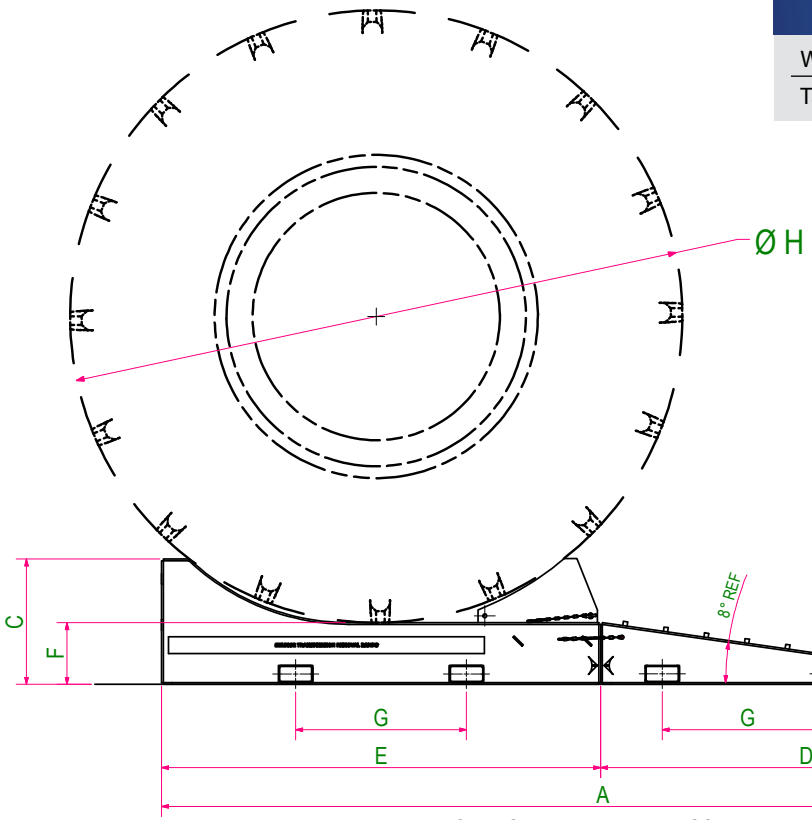
Once chocked the lower ramp section can be removed allowing maintenance personnel greater transmission access and visibility while using the Trilift® Transmission Hoist MKII's remote control.

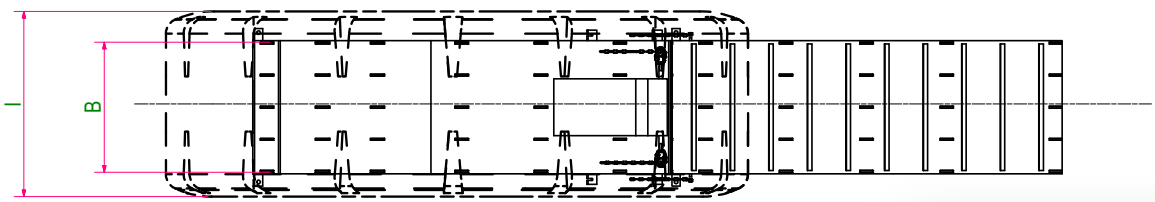
Two piece wheel ramp - Key Dimensions

A	Overall length	196in	4980mm
B	Overall width	31in	800mm
C	Overall height	29in	735mm
D	Ramp length	96in	2415mm
E	Stand length	101in	2570mm
F	Stand lift height	14in	360mm
G	Fork tyne width	39in	1000mm
H	Max recommended tyre diameter	141in	3585mm
I	Max recommended tyre width	45in	1140mm

Key Operating Data

Working Load Limit	40T	
Tare Weight	2 X 3263lbs	2 X 1480kg





Specifications

The Trilift® Wheel Stands and Wheel Ramps are compliant with the following standards:

- AS3990-1993 Mechanical equipment-steelwork.
- AS/NZS 1554.1-2004 Structural Steel Welding.
- AS 1163 Structural steel hollow sections.
- AS/NZS 3679 Structural Steel.
- AS/NZS 1252 High strength steel bolts with associated nuts and washers for structural engineering.

MHG00192_3 22032018

Jigs and Tooling

Final Drive Handling

Optional jigging

The Trilift® Final Drive Base Frame and Jigs have been designed to assist with the safe handling of the final drive assemblies from heavy earthmoving and mining equipment.

Attaching the Trilift® Final Drive Base Frame *(Part No. TL12102)* to the Trilift® Transmission Hoist MKII allows for the addition of a Trilift® Final Drive Jig. Both parts are designed to mechanically and hydraulically integrate with the Transmission Hoist MKII.

Pre-drilled locating holes along each side of the jig allow the rollers to be set to different positions to suit the model final drive being handled.

Final Drive Jig options include:

- Final Drive Jig to suit Cat 777 *(Part No. TL12111)*.
- Final Drive Jig to suit Cat 785 - 793 *(Part No. TL12112)*.

Specifications

The Trilift® Final Drive handling components are compliant with the following standards:

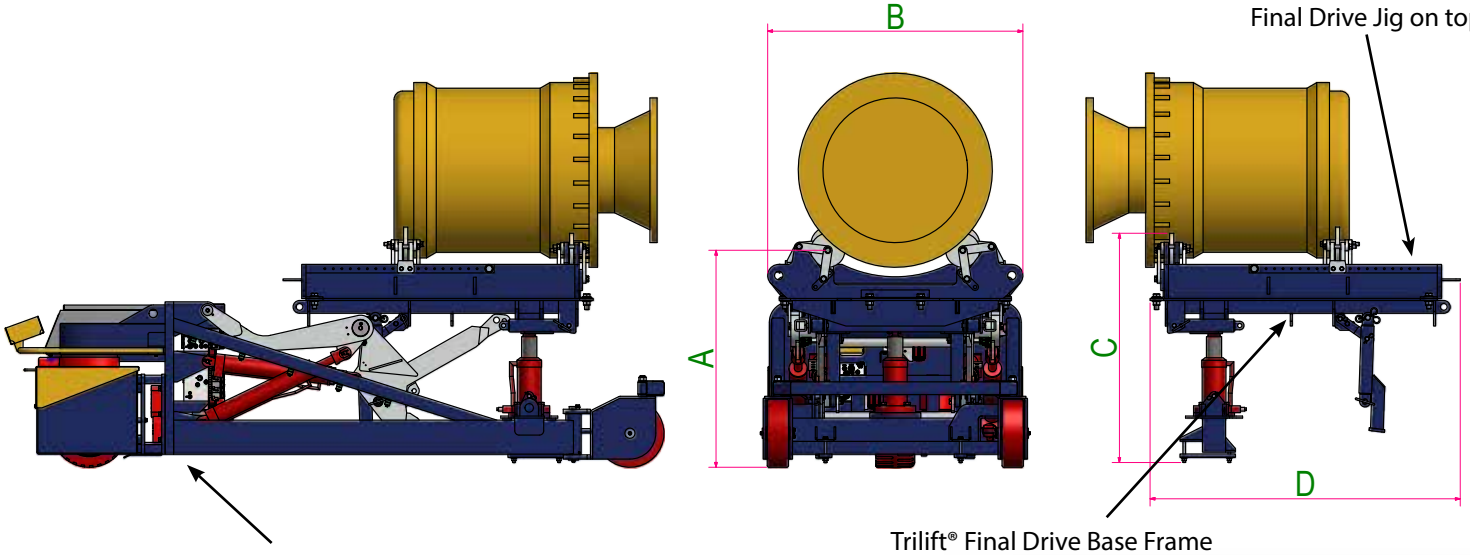
- AS 3990:1993 Mechanical equipment-steelwork.
- AS/NZS 1554.1:2011 Structural Steel Welding.
- AS/NZS 1418.1:2002 Cranes, hoists and winches.
- AS/NZS 1594 Hot rolled steel flat products.
- AS/NZS 3679 Structural Steel.
- AS/NZS 1252 High strength steel bolts with associates nuts and washers for structural engineering.

Key Operating Data

Tare Weight	1,984lbs	900kg
Working Load Limit	17,637lbs	8000kg

Key Dimensions

A	Min. Height of Tranny Hoist	44in	1116mm
	Max. Height of Tranny Hoist	50in	1266mm
B	Jig Width	59in	1500mm
C	Jig Height (adjustable max)	50.3in	1279mm
D	Jig Length	71.7in	1823mm



MHG00192_4 22032018