

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



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:

- o Hoist raise and lower
- o Cradle tilt
- o Jig tilt
- o Transmission rotate
- o Drive forward and reverse (variable speed)
- o Rear steering through 115°
- o 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 utilised to maximise workshop efficiencies.
- Reduces the number of personnel required to perform maintenance tasks freeing up labour 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 MKII 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 millimetre 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, utilising specialised tooling that is purpose built for component handling, with the ultimate outcomes of:

minimising workplace injuries and maximising availability.

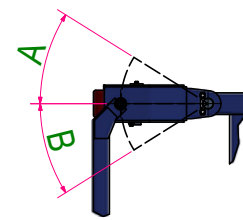
Specifications

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

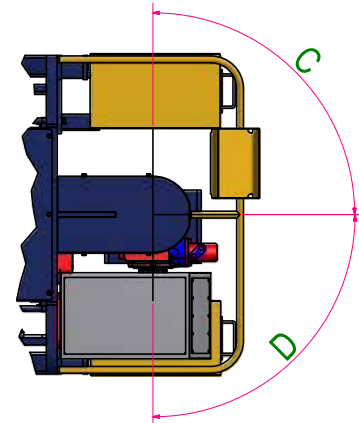
- AS 3990-1993 Mechanical equipment-steelwork.
- AS/NZS 1554.1:2011 Structural Steel Welding.
- AS 1418.1:2002 Cranes, hoists and winches.
- AS/NZS 1163:2009 Structural steel hollow sections.
- AS/NZS 1594:2002 Hot-rolled steel flat products.
- AS/NZS 3678:2011 Structural steel.
- AS/NZS 3679.1:2010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

Key Dimensions with Cat 785-793 cradle

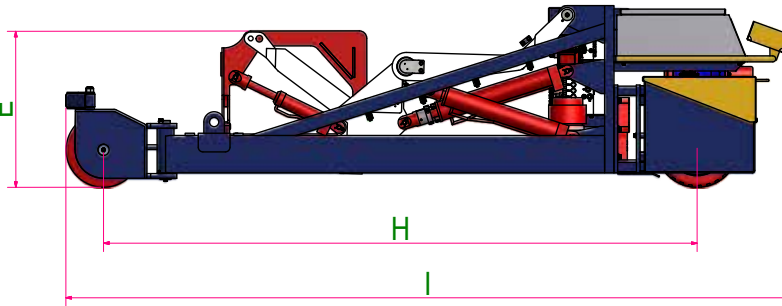
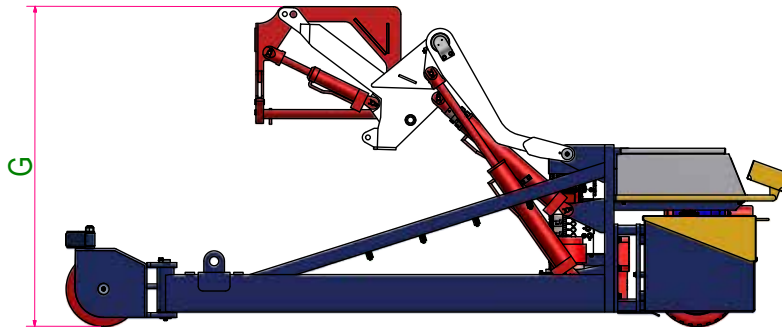
A	Front right steer angle	32°	-
B	Front left steer angle	32°	-
C	Rear left steer angle	90°	-
D	Right rear steer angle	90°	-
E	Minimum height	835mm	32.8in
F	Overall width	1585mm	62.4in
G	Maximum height	1712mm	67.2in
H	Wheel base	3177mm	125in
I	Overall length	3874mm	152.5in



FRONT STEERING DETAIL

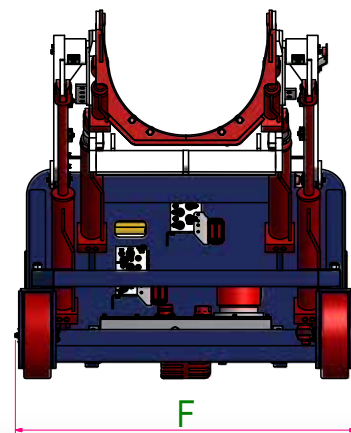


REAR STEERING DETAIL



Operating Data with Cat 785-793 cradle

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



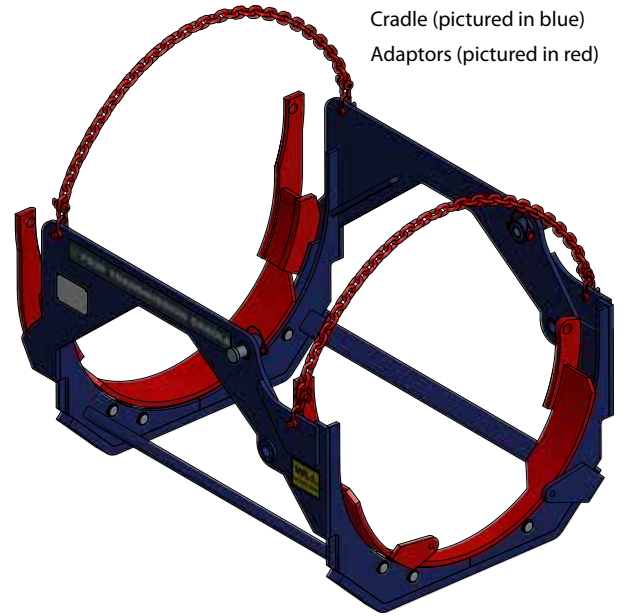
Jigs and Tooling

Transmission Handling Cradles & Adaptors

To optimise 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).



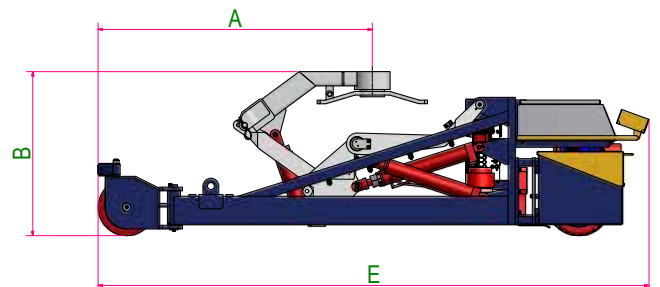
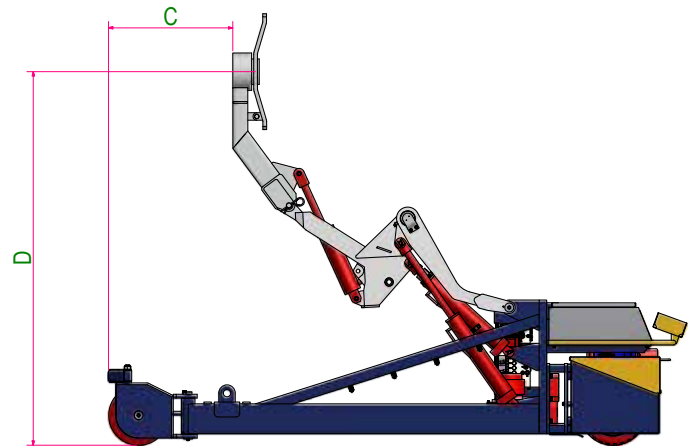
Differential Handling Differential Jig

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 MKII's main frame carrier and hydraulics using an overhead crane. 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	1,850 kg	4,078lbs
Tare weight	150 kg	330lbs

Key Dimensions to suit Cat 785-793

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



Jigs and Tooling

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:

- o Trilift® Wheel Stands (Part No. TL12101) or
- o 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.

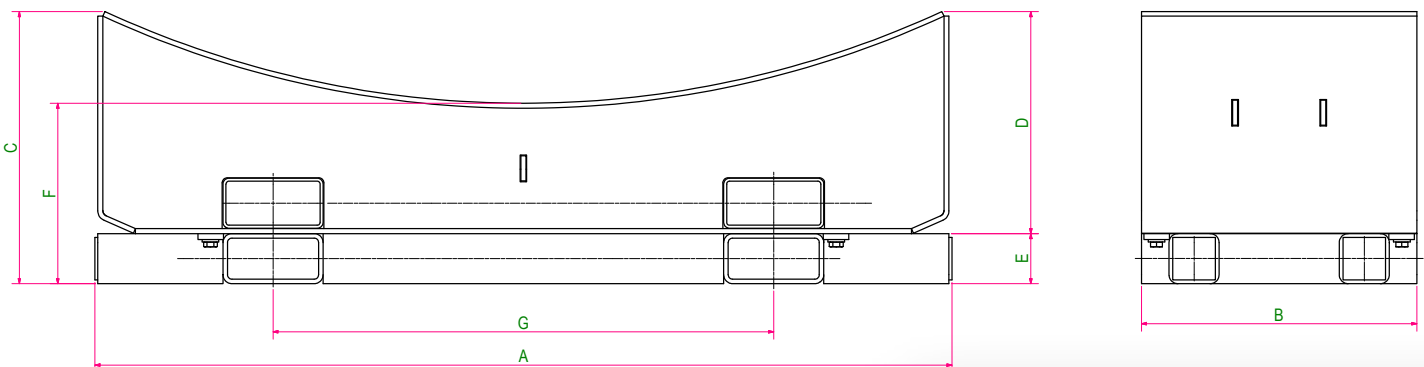
Using 100mm packers (Part No. TL12110) the stands are adjustable in height to suit the various models of Cat trucks.

Key Operating Data

Working Load Limit	45T	
Tare Weight	860kg	1896lbs

Wheel Stand and Packer - Key Dimensions

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



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.

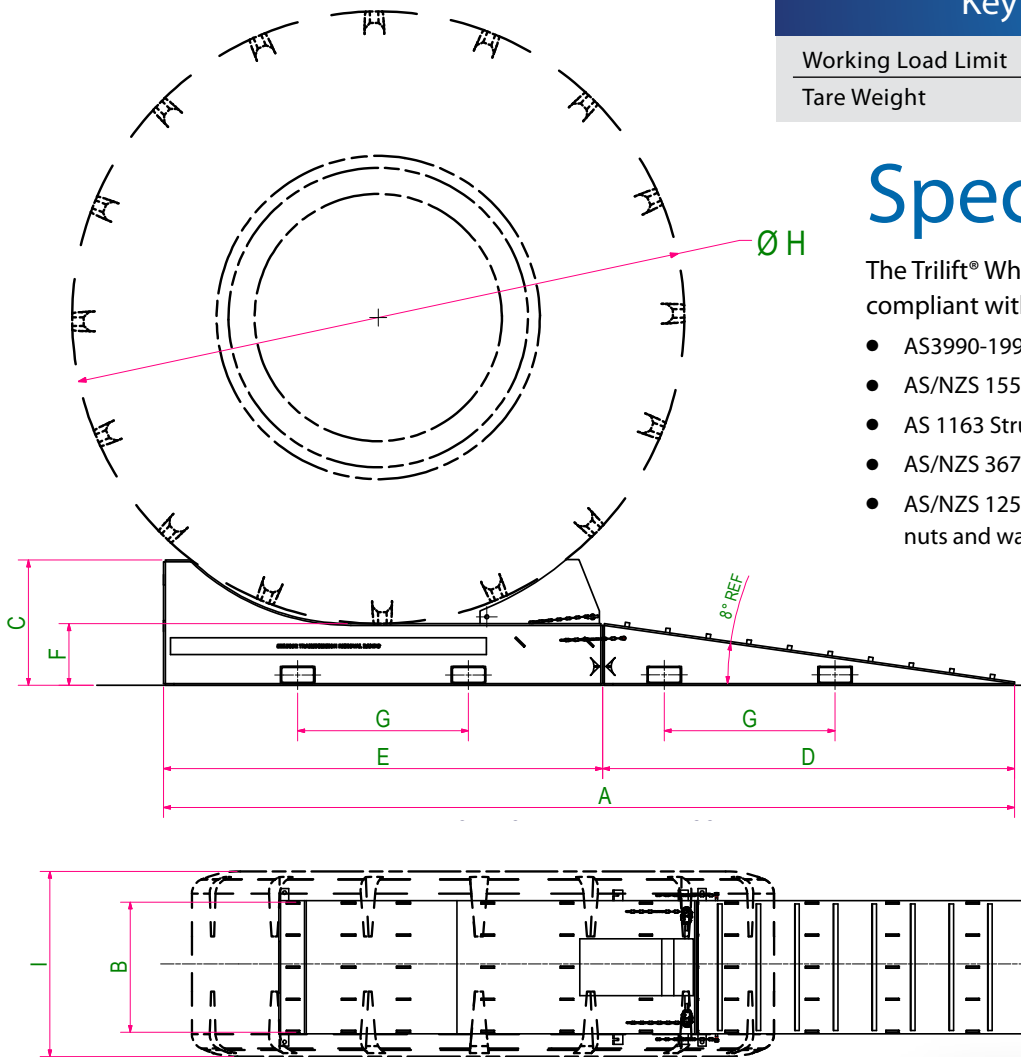


Two piece wheel ramp - Key Dimensions

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

Key Operating Data

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



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.

Jigs and Tooling

Final Drive Handling

Optional jiggling

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. TL12102A) 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	900kg	1,984lbs
Working Load Limit	8000kg	17,637lbs

Key Dimensions

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

