

Safety – Efficiency – Trust
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EDM MK-2 ROD FEEDER (PATENT PENDING)

*An Independent Diamond Rod Handling
System that is compatible with
Multiple Machines and
Eliminates Hazardous Hands-on-Steel
Operations associated with Diamond Drilling*



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EDM MK-2 ROD FEEDER

INTRODUCTION

The MK-2 is the most advanced EDM Rod Feeder delivered to date. The MK-2 gives any exploration drilling contractor worldwide with a top head drive & main haul winch - and selected chuck drives - the opportunity to upgrade their existing fleet to instantly remove their drill crews from traditional drilling hazards and in doing so providing a safer service to their clients.

The MK-2 is a “Plug and Play Instant Safety Solution” eliminating repetitive hands-on steel tasks, and with improved cycle times that have come to be expected from the EDM Rod Feeder’s well earned reputation.

All MK-2 operations are performed at its control panel where simple joystick commands are converted to the long and tedious series of consecutive maneuvers doing away with any intervention from the driller’s assistant. The feeder arm, plug assist, smart tray, skewing rod shuffler and 5-axis rod gripper team up to safely store, organise, load, unload and feed drill pipe and casing of 3, 6 and 9m length to and from drill operations.

The MK-2 is a containerised jack out and up sloop making for easy loading onto flatbed trucks and trailers and has two configurations - freestanding and self propelled. Engine tier 3 and 4 options are available.

EDM believes in making “Hands off Steel Technology” accessible to the existing worldwide fleet of exploration drill rigs and the EDM MK-2 Rod Feeder is an important step toward Safer Exploration Drilling Projects Worldwide.

KEY FEATURES AND BENEFITS OF ROD FEEDER SYSTEM

- Automated Plug Spinner removing all hands-on-steel intervention
- Can work with all top drive rigs with a main winch and selected chuck drives drive machines. Compatible with most machines with little or no modification required
- Will safely pull/run rods in both 6m (20ft) & 9m (30ft) Lengths
- Works on all mast angles from 45° - 90°
- Removes manual handling of rods, barrel assemblies and core tubes
- Onboard storage of up to 2000m (6000ft) N+ pipe or equivalent in other sizes
- Positioning tracks for easy set up behind the rig on drill pads with limited space
- Rod shuffler with magnetic jaws for rod Shuffling/Loading/Unloading rods, barrels and core tubes
- Ability to load rods from either side of Rod Feeder with the skewing rod shuffler for when extra rods are required
- Fits into a 40ft High cube container for international shipping
- Double Smart Tray Assembly with 3m telescopic action making it compatible to any mast geometry. Works in unison with roller, spinner jaws and shuffler to manage overall rod and tube storage
- Tethered Control console allowing operator to work from a safe zone clear of the line of fire
- Multiple camera’s allowing safe and seamless remote operation



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SPECIFICATIONS

ENGINE

- Hatz 1DV90 15Hp
- Air Cooled diesel
- Tier 3 and 4 options available

HYDRAULICS

- 11CC Pump 35Lpm (7 GPM)
- Valvoil DPX Valves
- Umbilical corded Remote operators' station

TRACK BASE

- Strickland DT22
 - Max Speed 0.5km/hr (0.31mph)
 - Low profile positioning tracks for easy set up behind drill rig.
- (Not designed for long distance tramming)

GANTRY ROD SHUFFLER

- Capacity 200kg
- Magnetic Pickup
- Deadman switch to release Rods
- Range of movement allows rods to be carried off either side up to 1600mm of the feeder base to Racks or other Rod Storage
- 3 simple, perpendicular movements allow fast and accurate handling of rods
- Gantry Hydraulically lowers for Transport

AUTOMATED PLUG SPINNER

- Automatically Inserts/Tightens or Loosens/Removes haul plug from rod
- Tilts up for Transport and to guide haul plug in
- Self centering gear drive to avoid galling threads

DUAL FUNCTION ROLLER/JAW ASSEMBLY

- Used to add/ remove rods to/from mast.
- Change between roller and jaw by fully extending or retracting support cylinder
- Roller for Pulling with main winch
- Jaw for adding or removing individual rods

JACK LEGS

- Heavy duty jack legs capable of lifting feeder up for easy loading / unloading on and off trucks
- 1.8m (6ft) Stroke
- Extendable to give 250mm (10in) Clearance each side for loading

TRANSPORT DIMENSIONS

- Length 8470mm (27 ft 9")
- Width 2500mm (8ft 3")
- Height 2750mm (9 ft)
- Weight 13000kg (28700 lb)

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HOW IT WORKS

Skewable Rod Shuffler with three simple perpendicular 3D Actions for taking rods to and from the centre Smart Tray and removing core tube/rods from Rod Feeder to and from Side Storage

Center Smart Tray with multiple intelligent functions designed for complete flexibility when working with the Shuffler and Automated Plug Spinner

Jackout Jacklegs for Self loading on Standard Flatbed Trailers

Self Contained Power Unit with Transport and Working Positions Combined with Folding Tail Gate/Stop Allow Compact Transport without sacrificing 9m (30ft) Length Operation

Freestanding and Self Propelled Configurations

Feeder Arm and 5-Axis Rod Gripper facilitates 3, 6 and 9m length Rod Handling To and From Drill Operations

Automated plug assist spinner for inserting/removing haul plug during tripping operations

Control Panel Remotely Mounted removing the Operator from the Hazards of Drill Rod Handling Operations

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HOW IT WORKS - ROD SHUFFLER

The Skewing Rod Shuffler takes rods to and from centre Smart Tray and removes core tube from the Rod Feeder with 1.6m either side of tray and 1.5m of Vertical Travel. 300mm of Fore/Aft travel is also included for fine tuning a rod's position within the Smart Tray.



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HOW IT WORKS – HAUL PLUG ASSIST

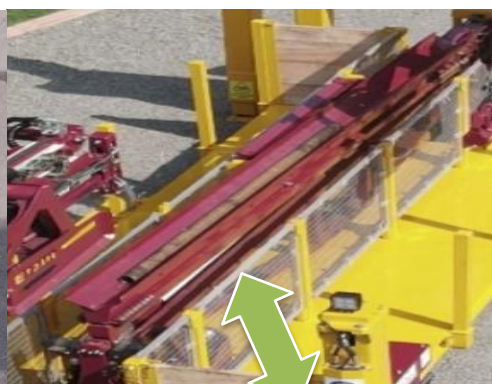
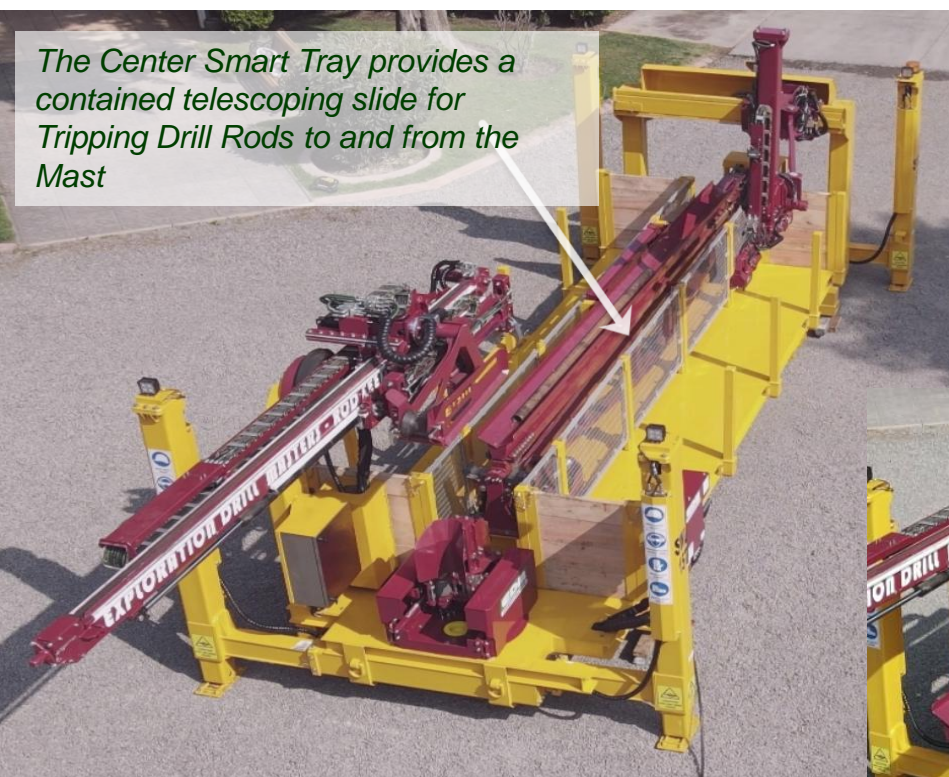
*The Haul Plug Assist
Receives, Presents,
Connects and
Disconnects the Haul
Plug and Adapter:
“No Hands on Steel” &
Maximum Thread Care*



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HOW IT WORKS - SMART TRAY

The Center Smart Tray provides a contained telescoping slide for Tripping Drill Rods to and from the Mast



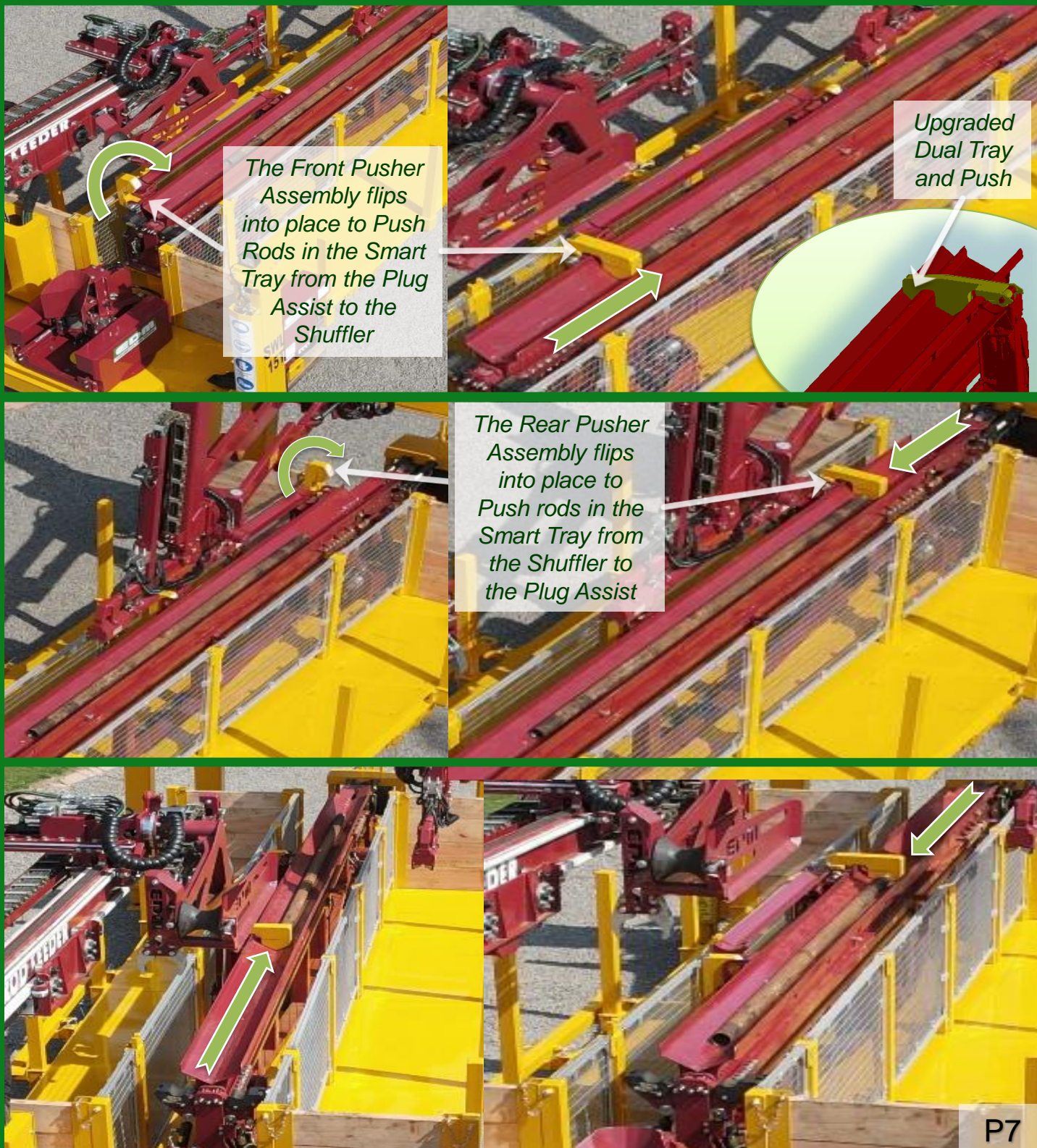
The Tray is articulated and will Raise, Lower and Telescope as Required



The 3m Telescope Seamlessly adapts to different masts and angles.

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HOW IT WORKS

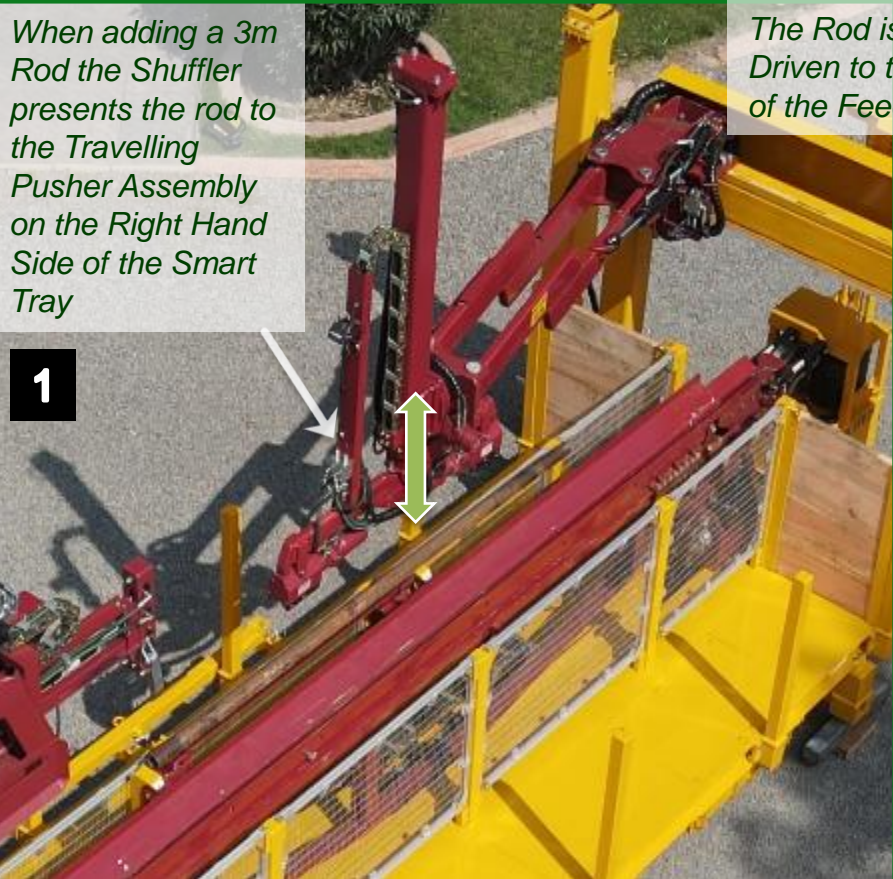


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HOW IT WORKS – ADDING A 3M ROD

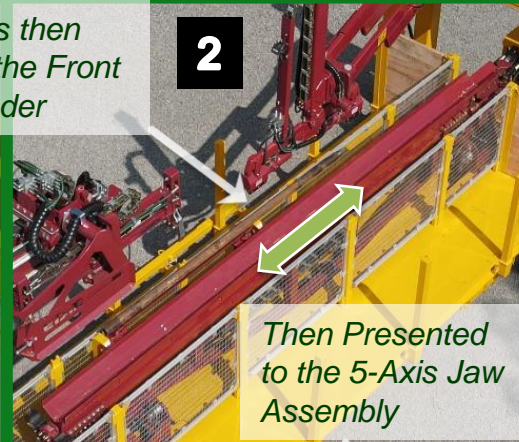
When adding a 3m Rod the Shuffler presents the rod to the Travelling Pusher Assembly on the Right Hand Side of the Smart Tray

1




The Rod is then Driven to the Front of the Feeder

2

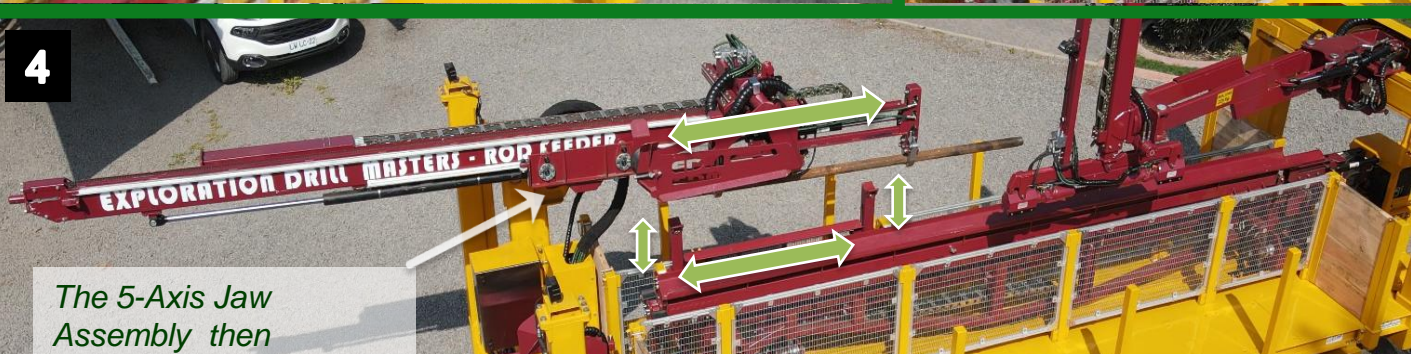


Then Presented to the 5-Axis Jaw Assembly

3




4



The 5-Axis Jaw Assembly then presents the rod to the Mast

5



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HOW IT WORKS – ADDING A 3M ROD CONTINUED



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HOW IT WORKS - TRIPPING

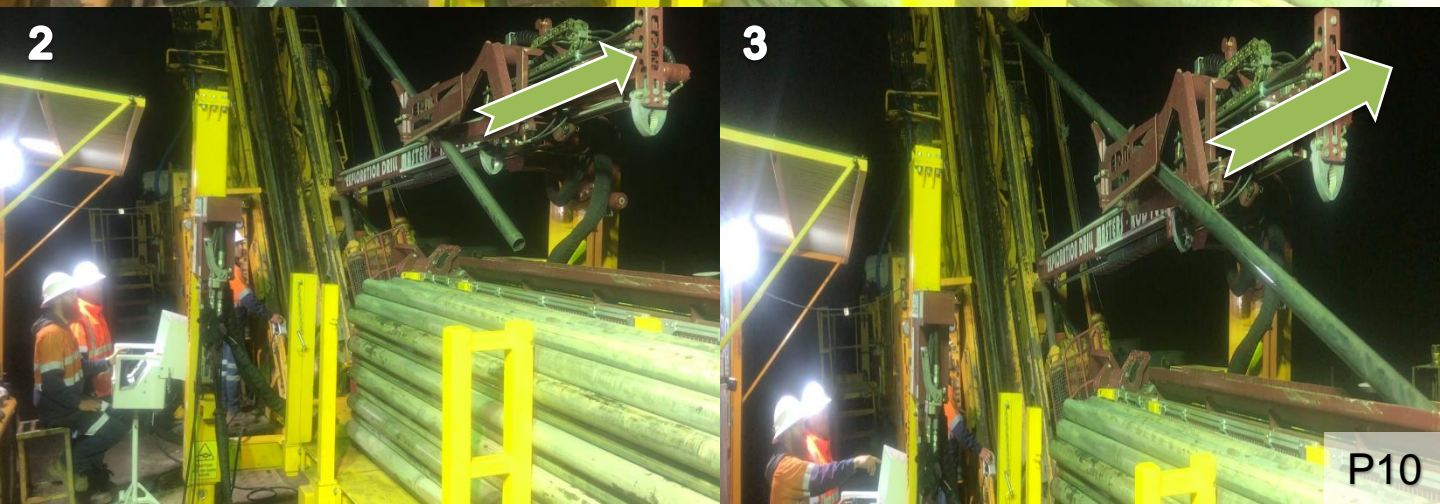
1

The Drill's Main Winch and Modern Hands-Off Steel Spinner and Breakout work in combination as normal – preparing the Haul plug, Lifting the String, Disconnecting the length to be tripped and raising it free of the table.

The Articulated Roller of the EDM MK-2 Rod Feeder is in position ready to guide the length from the mast to the Feeder's Tray. Safely and efficiently.

Articulated Roller Effortlessly Brings up to 9m Lengths onto the Smart Tray for Disconnection from the Haul Plug and Sorting

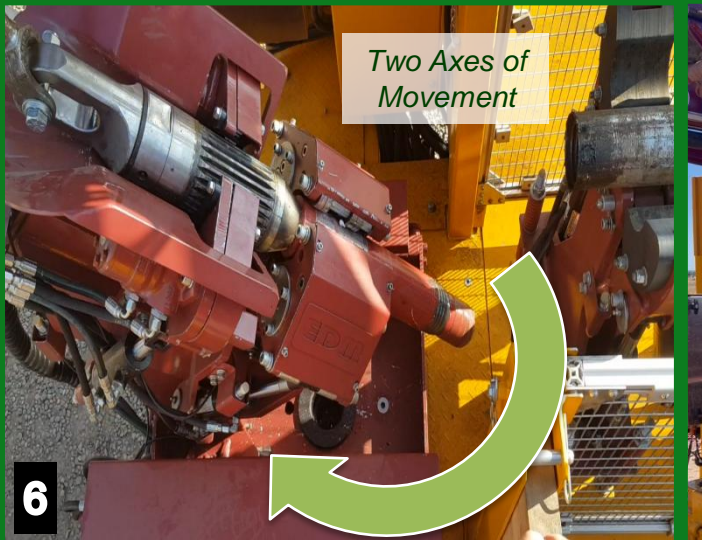
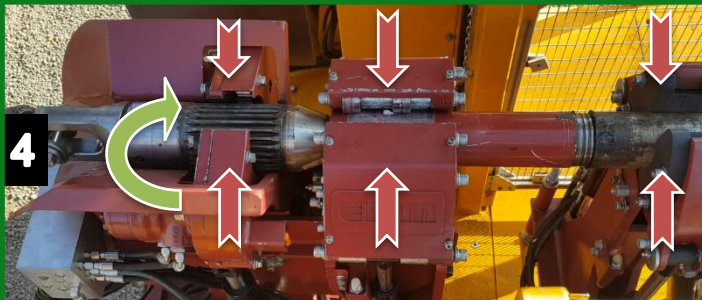
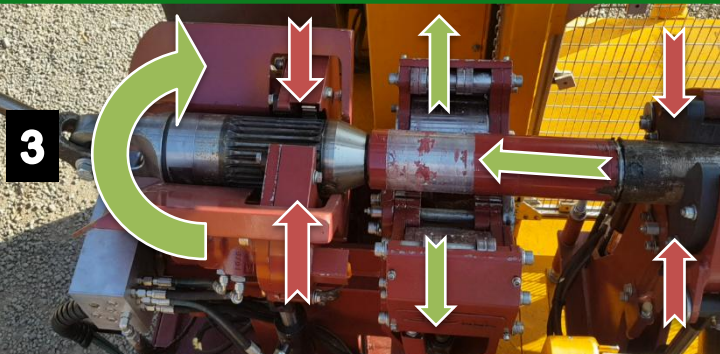
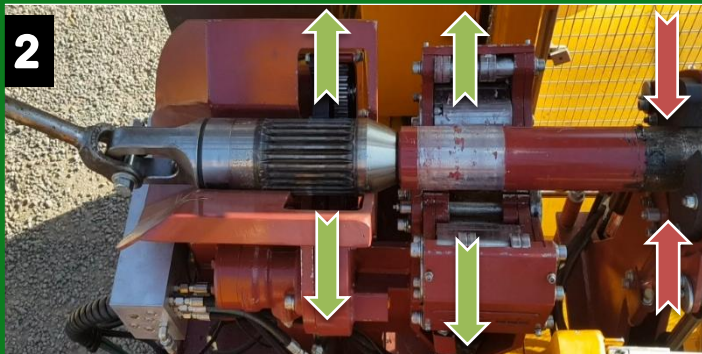
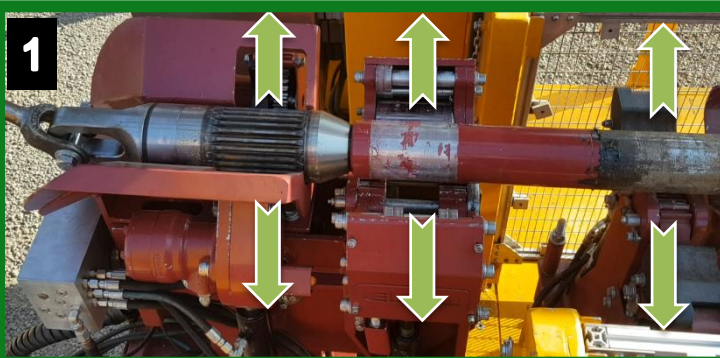
The Rod Feeder's Operator is busy removing the previously tripped rod with the Shuffler from the Center Smart Tray to be Stacked in the on board storage or up to 1.6m either side of the Feeder to a truck or in a rack.



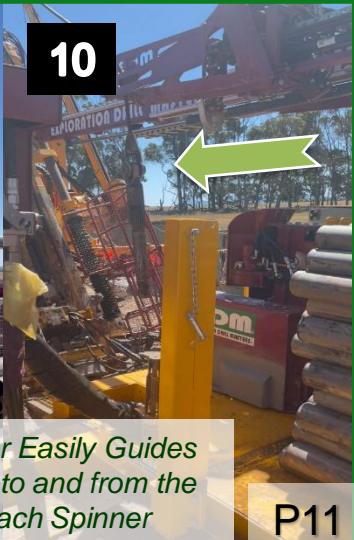
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HOW IT WORKS – TRIPPING CONTINUED SPINNER

After the rod is brought to rest in the Smart Tray and hard up against the back stop the Self Aligning Plug Assist Spinner carefully disconnects the Haul Plug without galling and damaging threads. Note that steps 1 through 9 in the photographs that follow are an Automated Sequence of Manoeuvres that the Plug Assist performs with one action of the Joystick at the Rod Feeder's Control Panel. For Tripping into the mast the sequence is reversed.



Two Axes of Movement



Roller Easily Guides Plug to and from the each Spinner

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HOW IT WORKS – TUBE MANAGEMENT

1

2

Roller brings Tube to the 3m Stroke Telescoping Smart Tray

3

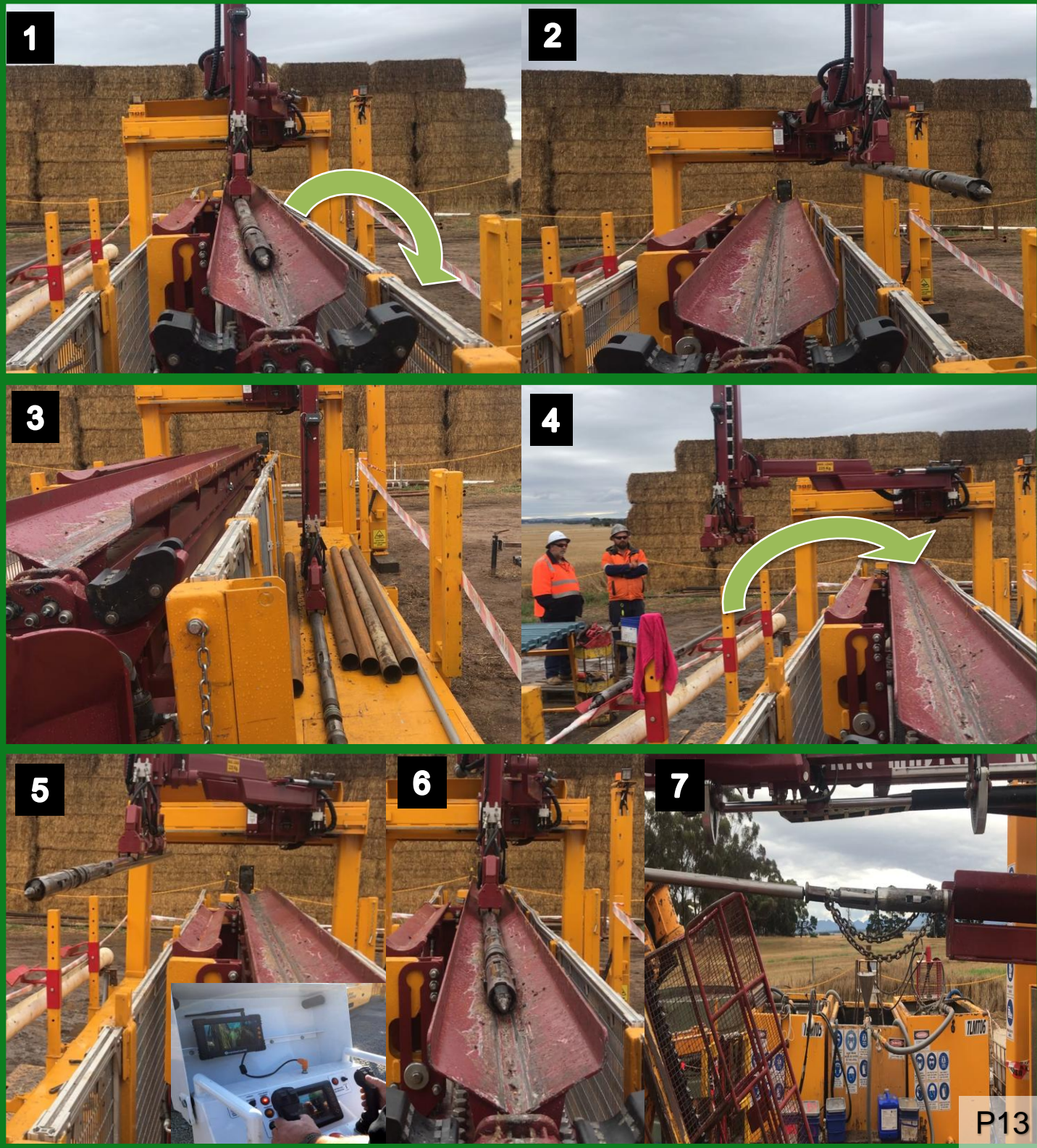
4

6

5

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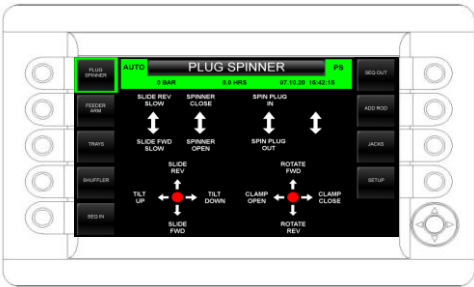
HOW IT WORKS – TUBE MANAGEMENT CONTINUED



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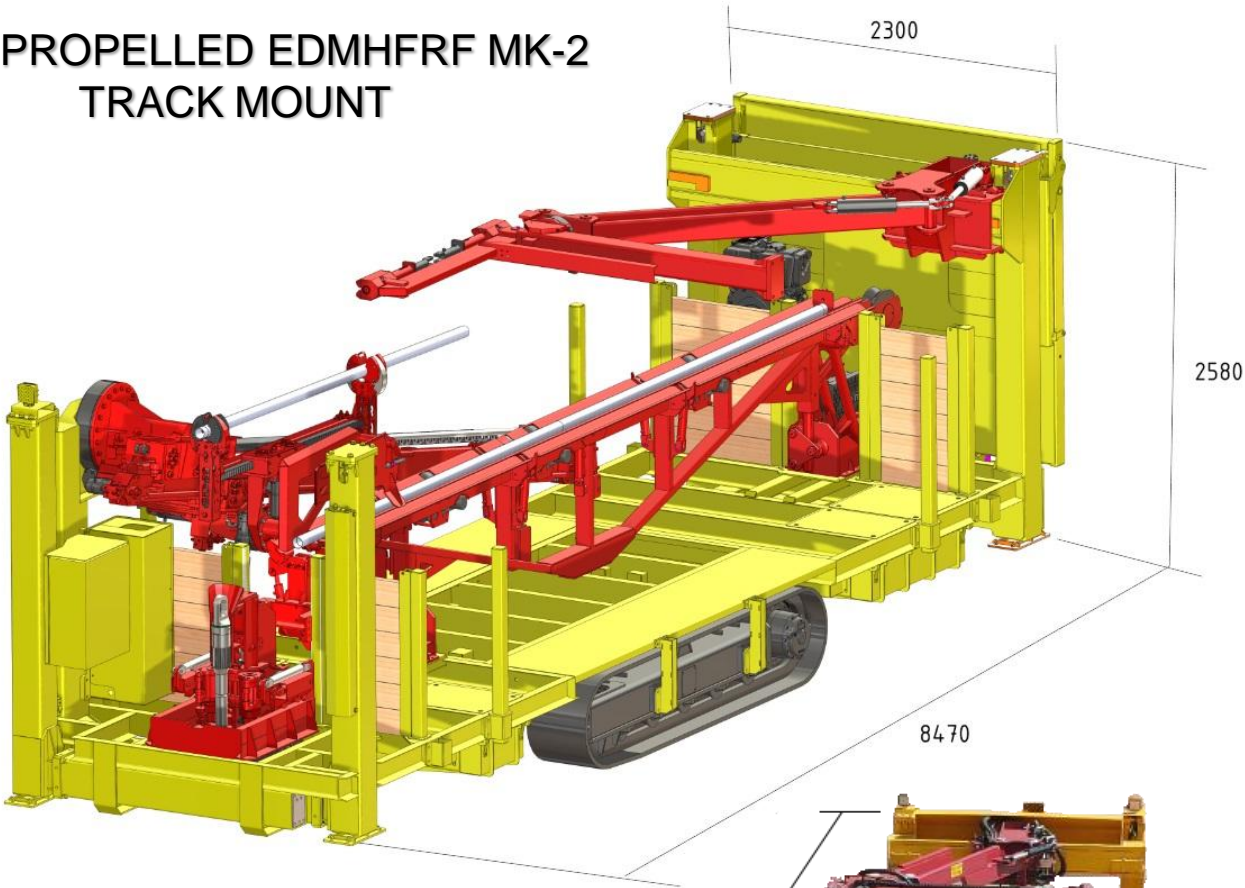
HOW IT WORKS – CONTROL PANEL

The Feeder's Control Panel can be located at a safe distance from the Machine and operates all the functions necessary to trip drill rod and tube in and out of the hole. Integrated into it's structure are Safety Lockouts with unique and integrated key codes that are near impossible to circumvent. The ergonomic Joysticks and Display make the tough job the feeder performs a simple undertaking.

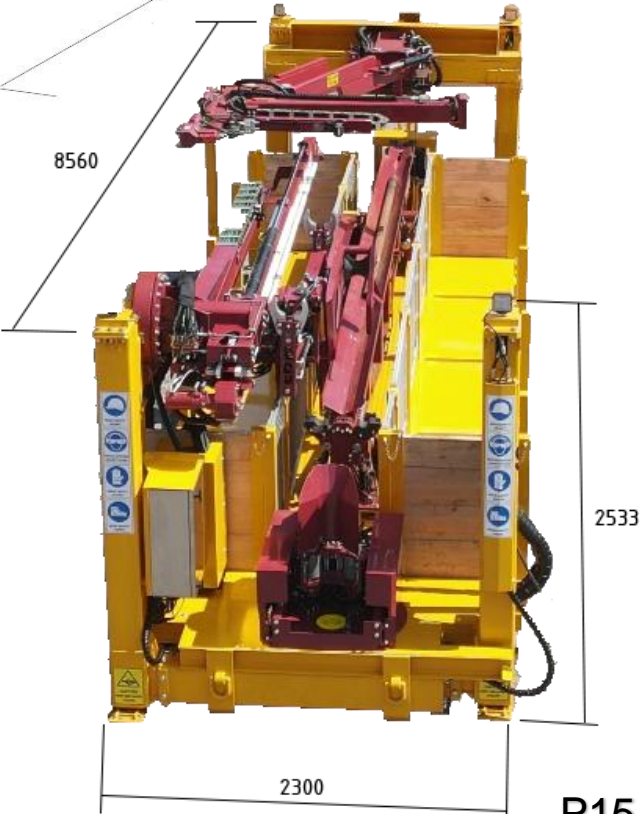


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SELF PROPELLED EDMHFRF MK-2
TRACK MOUNT



OPTIONAL EDMHFRF MK-2
JACK UP MOUNT

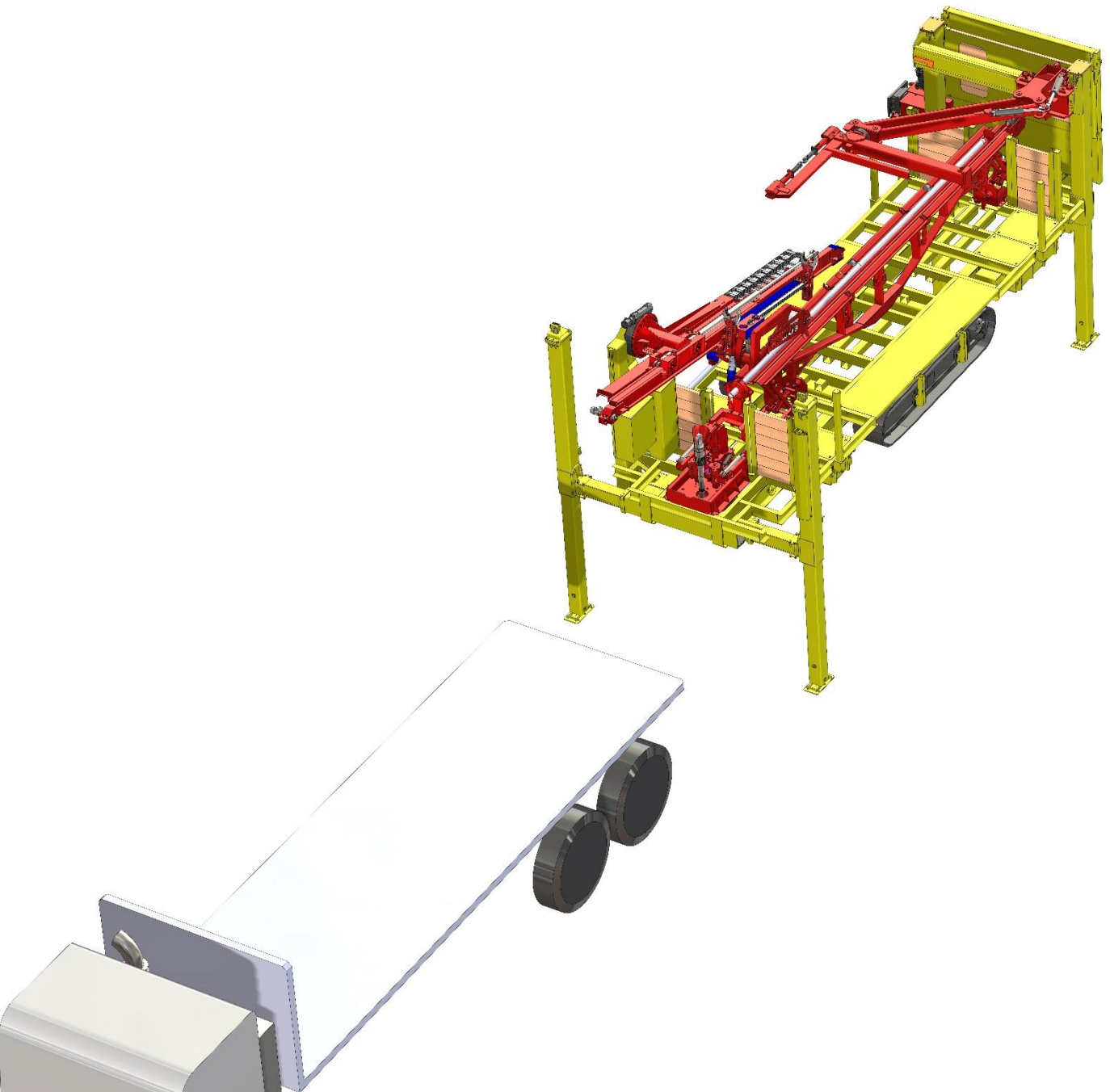


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EDM MK-2 ROD FEEDER

READY FOR FLATBED LOADING



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