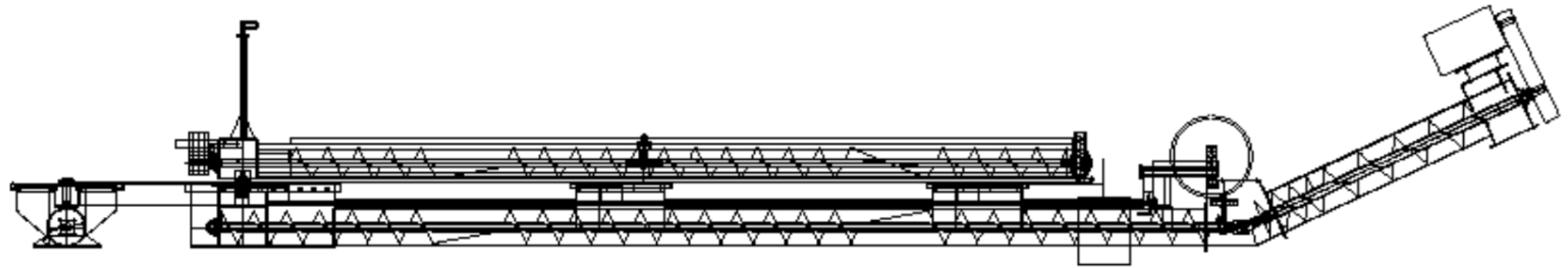


**PTO/ Hydraulic UNLOADING AUGER**

**Operations Manual**

**OPTIMUM**

**GRAIN SILOS & AUGERS**



 **OPTIMUM**  **AUGERS**  
**UNLOADING**

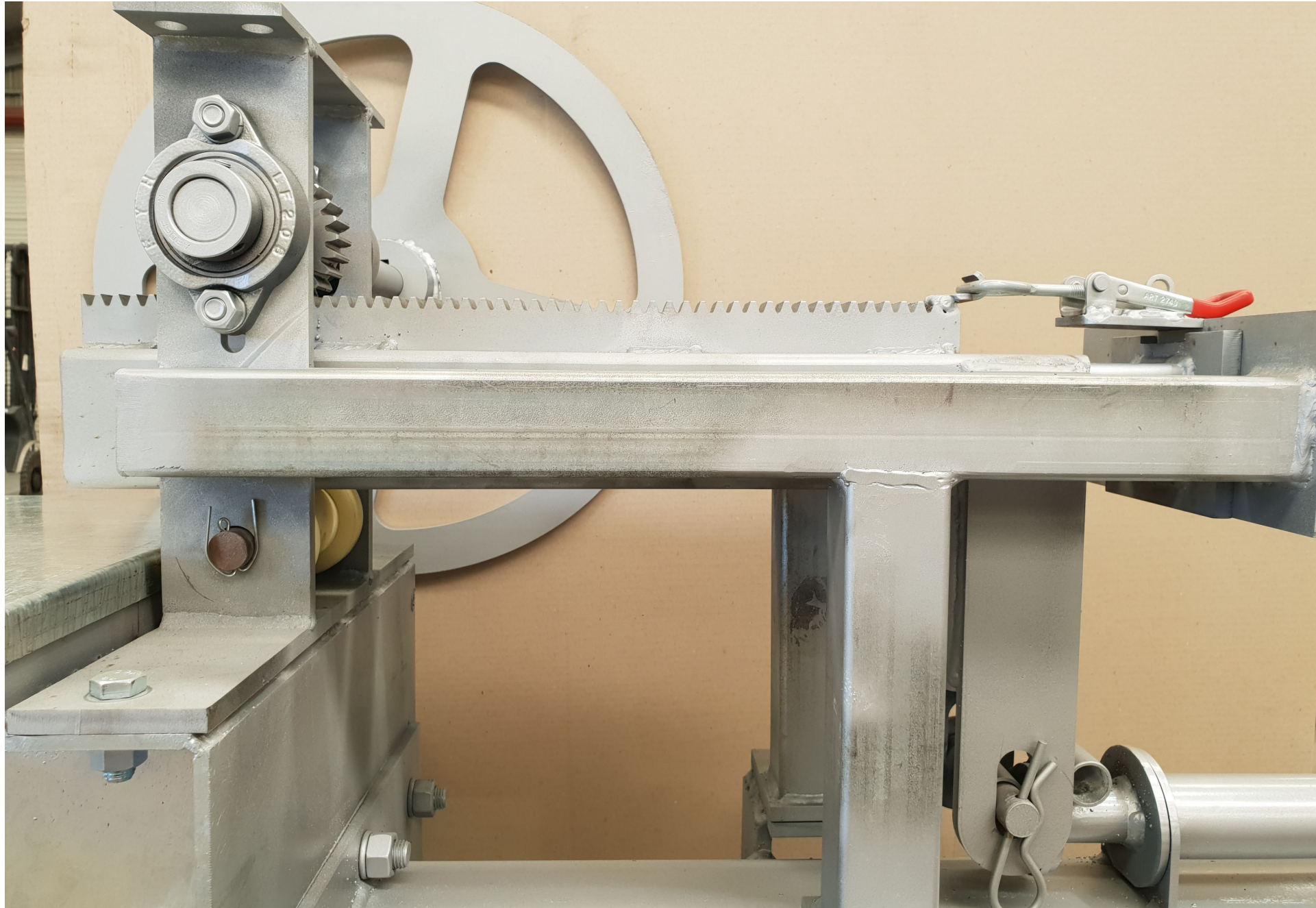
## **PTO Hydraulic UNLOADING AUGER – OPERATING PROCEDURE**

The Optimum Engineering PTO Hydraulic Unloading Auger is designed with a sequenced pull rod system to facilitate safe operation of the grain sumps. A Rack and pinion system with manual hand wheel is also supplied to facilitate easy opening of the gates.

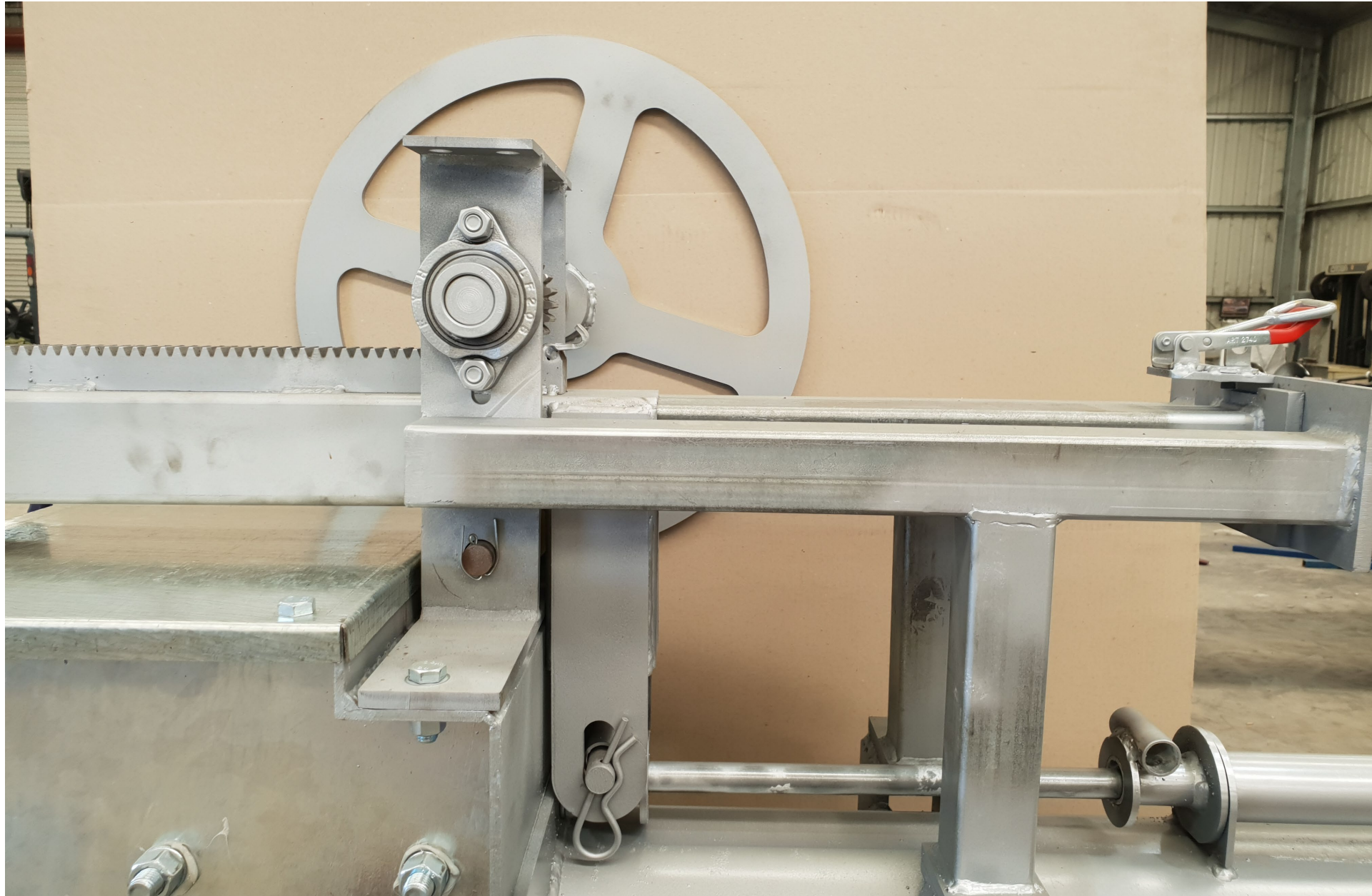
**The Method of operation of these gates is summarised below:**

1. Locate the slot in the pull mechanism to line up with the hollow bush on the end of the outer most pull rod and push the pin through the slots in the mechanism and through the hollow bush. The **Outer** most pull rod (smallest diameter pipe) operates the **Centre** sump.
2. Start the Unloading Auger
3. By using the hand wheel, open the centre sump by pulling the pull rod away from the silo. Regulate the flow of grain to the required volume.
4. 90% of maximum flow is achieved when centre gates/ rack is open 110 – 120mm. If open further this will significantly increase the amps pulled by the electric motor for little gain of flow.

Position: closed

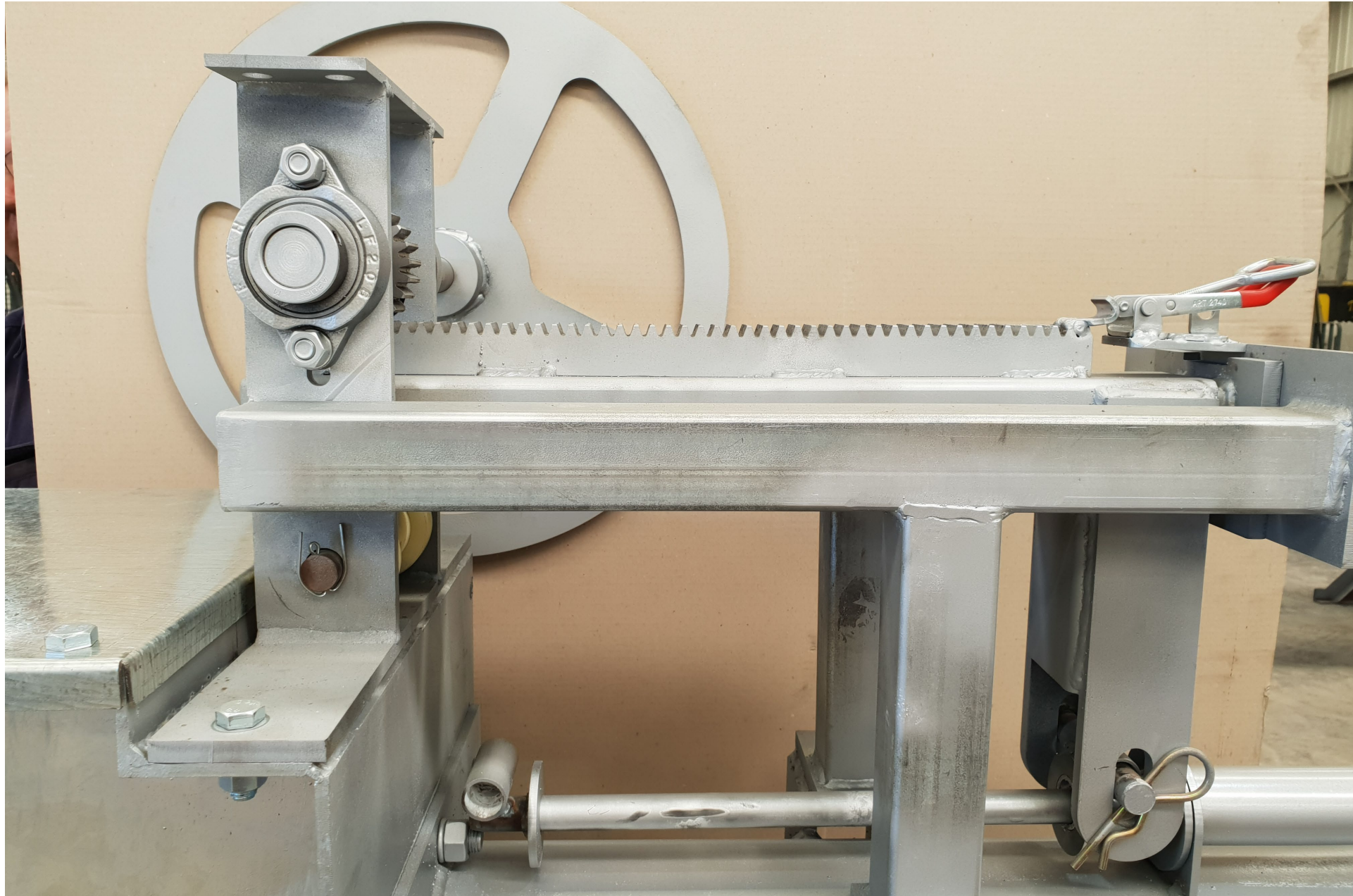


Position: fully open center sump  
(position for sweep operation)



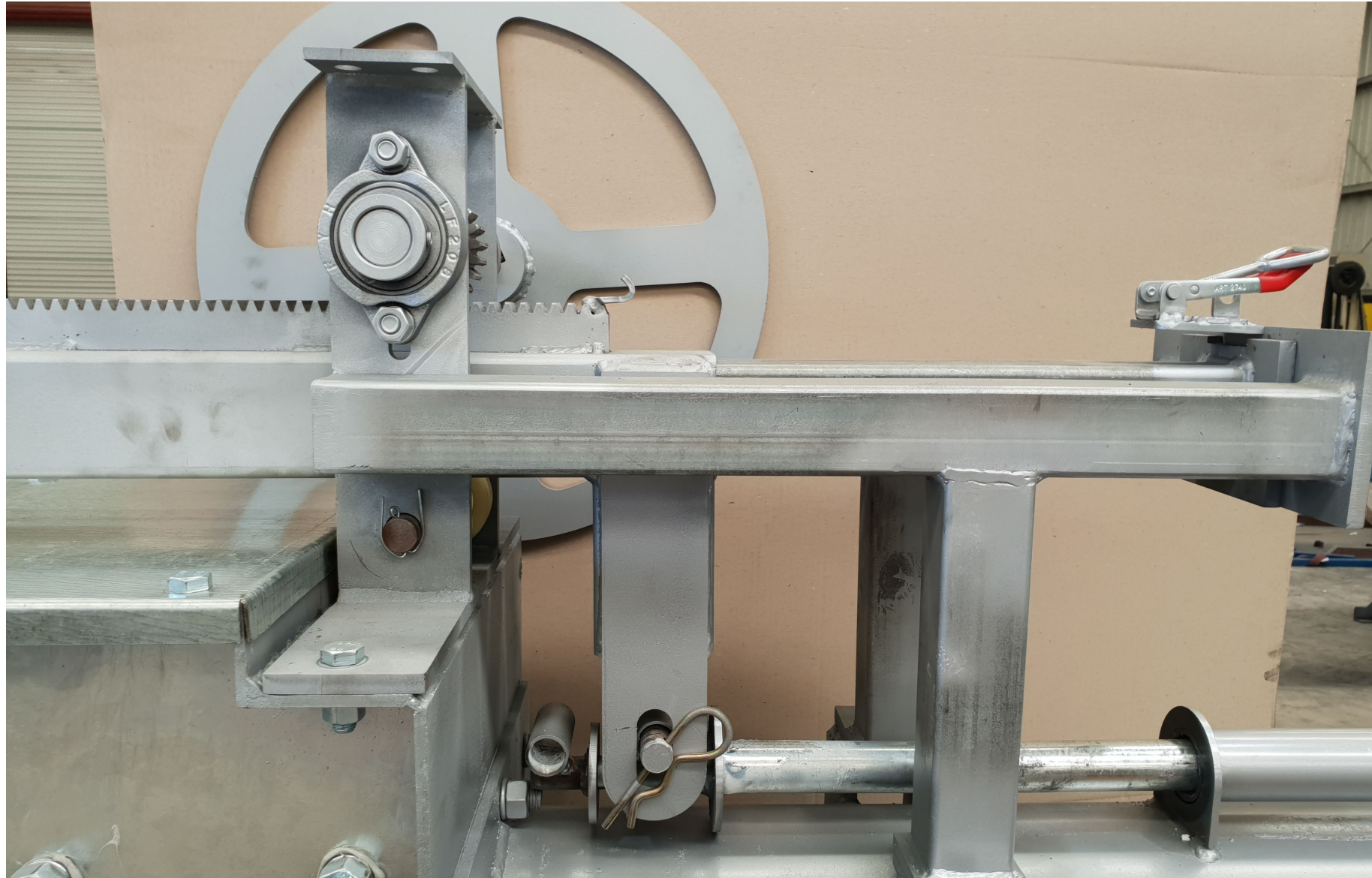
5. It is recommended practice to close the centre sump prior to shutting down the Auger and to leave it closed until the auger is restarted.
6. The **centre** sump is the **only** sump to be used until all flow of grain ceases to this sump. Intermediate sumps are not to be used until all gravity flow to the centre sump ceases.
7. Once all gravity flow has ceased to the centre sump, the next sequenced pull rod is to be engaged by the mechanism and opened to allow grain to flow into the inner intermediate sump. Regulate the flow through this sump carefully using the hand wheel. This pull rod should be locked by the supervisor until it is required.

Position: opening intermediate sumps





Position: open intermediate sumps



8. Once grain ceases to flow to the inner intermediate sump, the next sequenced pull rod is to be engaged (on models with more than one intermediate pull rod) by the mechanism and opened to allow grain to flow into the middle and outer intermediate sumps. Regulate the flow through this sump carefully using the hand wheel.
9. Once all grain has ceased to flow by gravity to the sumps, the sweep auger has to be started to discharge all remaining non-gravity grain.

**Important:**

**Intermediate sumps must remain closed until all grain has ceased to flow by gravity to the centre sump.**



**SAFETY  
FIRST**

## Safety

- No personnel should be in the silo whilst the unloading auger is operating.
- The unloading auger is guarded to prevent access to moving parts. Guarding should not be removed by unauthorised personnel.

## **Hydraulic UNLOADING SWEEP AUGER – OPERATING PROCEDURE**

The Optimum Engineering Sweep Auger is designed to extract the grain that will not gravitate to the centre and intermediate sumps. Once all sumps in the associated unloading auger ceases to flow by gravity, the sweep auger is to be utilised.

**The method of operation of the Sweep Auger is summarised below:**

1. Open the weather proof door and secure back to the silo with latch provided
2. Undo the bolts in the inner bulkhead door and push inwards
3. This is for a visual inspection only, no requirement to enter the silo
- 4. The unloading auger should be stopped with pto off and tractor off.**
5. Plug hydraulic hoses in. This is 50/50 for direction first time. Please make sure sweep travels clockwise and make hoses for future.
10. Insure that the centre sump in the unloading auger is **Fully Open** and the intermediate gates are **Fully Closed**.
11. Start the unloading auger before starting the sweep auger
12. Start the sweep auger
13. The sweep auger should traverse the silo at lease once

## Important

1. Centre sump must remain fully open and intermediate sumps fully closed whilst the sweep is operating.
2. The sweep must be positioned in the rest position before the silo is refilled.

## Safety

- No personnel should be in the silo whilst the sweep auger is operating.
- The unloading auger should be stopped and isolated before entering the silo.





**OPTIMUM**  
**UNLOADING**  **AUGERS**