1. Objective and Scope

To describe how to correctly assemble the Saferoads OMNI-STOP Portable Emergency Vehicle Access Gate system.   The gate system has been developed to allow emergency service vehicle and designated vehicle access to a restricted area.

2. Important Note:

Saferoads OMNI-STOP Portable Bollard has been independently crash tested and can stop a 5000lbs / 2270kg vehicle travelling at 37mph / 60kph.   PAS Rating: N1G - 48 (2500kg 4x4 Dual Cab Pickup) @48kph

OmniStop Portable Security Bollard is unobtrusive, allowing free flow of foot traffic through the system, including easy access for prams and wheelchairs. It does not inhibit the timely evacuation of pedestrians in case of an emergency.

3. Personal protective equipment (PPE)

The following is mandatory PPE.

Safety Boots (steel capped) with rubber soles.	Eye protection is compulsory	Hearing protection is compulsory	Hi-Viz must be worn when installing product	Gloves must be worn when installing product	Hi-Viz Protective Clothing is to be worn

4. Equipment Required

a)   Air Impact Wrench ¾ “ drive;
b)   Air Impact Sockets 41mm 1 $^{5/8”}$ and 30mm 1 $^{3/16”}$
c)   Spanner 36mm (1 $^{3/8”}$);
d)   Lifting Sling 2T x 2m;
e)   Vice Grips;
f)   Small steel block 50mm (2” L) x 50mm (2“ W) x 25mm (1“ H);
g)   Access to compressed air;
h)   Forklift;
i)   Overhead lifting device; and
j)   WD40.

Note: Ensure that the Air Impact Wrench has a maximum torque of 1355Nm (1000ft-lb)

5. Qualifications and Competencies

a)   Safe use of hand tools;
b)   Competent on using and overhead crane;
c)   Forklift Licence; and
d)   Manual handling.

6. Safety Note

Prior to commencing the assembly of the gate system, ensure that all parts are laid out and are easily accessible.   Ensure the workspace is free from any hazards and non-associated work. Ensure that there are no trip hazards within the work area.

Ensure that all lifting equipment is reviewed prior to use and that all equipment is compliant. Ensure that all operators have the relevant and valid licences and tickets (HRW).

7.   <u>Sub assembly of Gate Rail – Chain Link and Pin</u>

To assist with the final assembly, assemble the bearings, chain and hammer locks to the Gate Rail as per below.
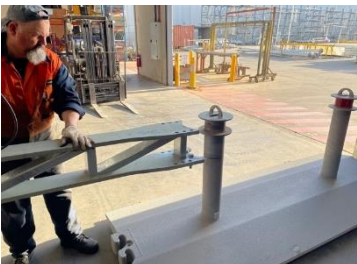
Ensure that the gate rail is on a level surface, use of workshop trestles is the preferred method.

Step 1 – Check gal. chain	Step 2 – Attach chain to rail	Step 3 – Attach chain to rail
The gate pin chain is an 8mm (5/16") hot dip galvanised chain, 18 links with a total length of 650mm (approx.. 25"). Load capacity 1000kg (2200lbs).	Attached the chain to the top handle of the pin with a hammer lock chain link.	Attached the other end of the chain to the welded attachment link on the underside of the top rail.

8.   <u>Sub assembly of Gate Rail – Bearings</u>

Step 1 – Bearings	Step 2 – Bearings	Step 3 – Bearings
Insert the galvanised M20 x 100 bolt and M20 washer into hole on the bottom rail. Place the bearing onto the bolt with a M20 washer each side of the bearing and finger tighten.	Repeat the process with the second M20 bolt / washer and bearing assembly and tighten.	Once this has been tightened using the air impact wrench, ensure that the bearing spins freely. Note: When inserting bolts into the predrilled holes, operators may experience a build-up of residual galvanizing. This can easily be removed by using a die grinder.

9. <u>Assembly of Gate Rail to Omni Portable</u>

Step 1 – High mounted	Step 2 – Low mounted	Step 3 – Moving the rail
High Mounted Note: The gate system consists of top and bottom handed segments. Note that one gate sits higher than the other. This will ensure that they close without interference.	Low Mounted Note: The gate system consists of top and bottom handed segments. Note that one gate sits higher than the other. This will ensure that they close without interference	Using a 2T x 2m sling, pick up the gate rail via an overhead lifting device. Position the sling correctly to ensure a balanced lift.
Step 4 – Aligning gate rail	**Step 5 – Mounting "U" plate**	**Step 6 – Aligning the holes**
Place the Gate Rail in position with the OMNI Portable Bollard	Place one "U" plate on the lower ring of the OMNI bollard. The "U" plate, will rest upon the bottom ring	Place the top "U" plate into position. Align the holes manually.
Step 7 – Inserting bolts	**Step 8 – Inserting the bolts**	**Step 9 – Aligning the holes**
Using a galvanised M24 x 120 bolt and M24 washer place the bolt through the predrilled hole and ensure that the bolt passes though the top "U" plate, Gate Rail and bottom "U" plate.	Repeat the process until all 6 bolts have been inserted. On occasion the bolts will not sit flush. Simply use the Air Impact Wrench with the 41mm socket and the bolts will sit flush.	Place the top "U" plate into position. Align the holes manually.

Step 10 – Washers and nuts	Step 11 – Tightening	Step 12 – Top U plate – bottom rail
Attach a Galvanised M24 washer and M24 Nyloc nut, doing up finger tight. Repeat the process with the remaining bolts.	Using the Air Impact wrench with the 41mm socket and the 36mm (1 3/8") spanner, tighten all of the bolts.	Place the top "U" plate on the bottom rail and manually align the holes. Allow this plate to rest upon the bottom rail.

Step 13 – Bottom U plate - lower	Step 14 – Spacer	Step 15 – Securing U plates
Place the bottom "U" plate into position. The "U" plate will remain in position on an angle as it will grab against the shaft of the bollard.	Place the small steel block 50mm (2" L) x 50mm (2" W) x 25mm (1" H) between the two "U" plates. This will act as a spacer.	Using a set of vice grips, secure the top and bottom "U" plates.

Step 16 – Bottom U plate - lower	Step 17 – Tighten	Step 18 – Check
Using the M24 bolts, washers and nylocs (as per the top plate), insert the bolts in the inverted position and do up finger tight.	Using the same assembly tools as per the top plate, tighten the bottom set of bolts.	Ensure that all bolts are tight and are flush.

Step 19 – Lubricate	Step 20 – Remove sling	Step 21 – Check / swing gate
Apply a generous amount of WD40 between the two plates on the top and the bottom. Place all air tools, air hoses and hand tools away.	Remove the sling from the gate rail	Rotate the gate rail two to three times to ensure a smooth movement. Any slight build-up of residual gal will be removed through this process. Safety Note: Ensure to tie back the gate rail to the top of the OMNI prior to moving the gate unit.

10. Applying Warning Labels

Step 1 – Warning label	Step 2 – Warning label	Step 3 – Warning label
Each Gate arm has 5 Pinch point labels	Three labels are placed on the top arm where the gate rail connects with the bollard.	Two labels are placed at the connection point where the two arms join, and the pin is inserted.

11. Final Checks

Step 1 – Final Checks and clean worksite

- Sweep any excess dirt or debris from the site and collect any left-over parts
- Housekeeping practices adhered to and worksite is left clean and safe; and
- Items have been fitted correctly and safely.
- Workmanship is to specification;

- Materials quality is acceptable;
- Unused materials are removed; and
- Quality checks performed.
- Surrounds are restored to prior condition; and
- No spillage and/or damage to any soil, habitat, atmosphere or drainage.

SOP REVISION UPDATES

SOP Amendment Level		
Rev #	Date	Comment
8	22/11/2023	a. PPE Icons updated – No Revision change
1	10/05/2022	a. Review by Manager – Supply, Safety and Systems – No Revision change (format only)
1	23/02/2021	b. New SOP