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**ACCESS DIVISION TRAINING RE-BRIEF**

Emergency Recovery procedure on the AR17

Purpose

The purpose of this Training re-brief to is emphasize the emergency recovery procedure of the Rexquote AccessRailer 17 and the correct use of the recovery engine.

Briefing Content

The following pages are compiled from the manufacturer’s manual and illustrate the correct recovery procedure of both the Access platform boom and the rail components enabling the RRV to be towed from the point of failure to a safe location determined by the customer. Note that the recovery engine is not there to provide drive power to recover the vehicle but to provide sufficient hydraulic services to raise the rail bogies or release the brakes. Further services are possible by operating the solenoid valves as explained overleaf.

On some worksites the method of working may involve the use of a second RRV to act as a towing vehicle in the event of an AR17 failure, as with all RRV movements this is only to proceed when cleared by the PICOP and the movement has been authorised by the Machine Controller.

By signing below you are confirming receipt of this brief and that you understand it’s content.

Signature:.....

Name:.....

Date:.....

## 8.11 Emergency Recovery Procedure

**Emergency recovery should be undertaken on one vehicle at a time. It is not appropriate to use emergency recovery systems to tow.**

Some emergency recovery situations require use of the Emergency Recovery Engine as a substitute hydraulic power source for the vehicle and access systems.

### 8.11.1 Emergency Recovery Engine

The Hatz 1B40V recovery engine is located on the off side of the machine behind the front wheel. To gain access to the engine, open the panel door. Close after use.

Do not run engine with cover closed. Remove cover by removing R clip hinge pins before starting engine.

Start the auxiliary engine with the main engine stopped and the selector keyswitch in the OFF position.

Set the speed control lever to the halfway position (approx 45° from the horizontal).

Pull the starting cable out by the handle until you feel a slight resistance, then let the cable run back; in this way the entire length of the starting cable can be used to start the engine

Grip the handle and pull the starting cable vigorously and at an increasing speed (do not jerk it violently) until the engine starts.

All hydraulic functions on the machine will operate in the same way as with the main engine. The control and ignition switches need to be utilised in the normal manner for equivalent operation. The Auxiliary engine does not charge vehicle batteries so the normal functionality will be time limited by the amount of charge in the batteries.

### 8.11.2 Emergency Recovery of Platform

#### 8.11.2.1 Incapacitated Operator In Access Platform

Turn key switch selector at ground control station to platform (fully anticlockwise) and press emergency recovery button, see Figure 8.2.16. A siren will sound (pulse) in this emergency mode. Lower platform using ground controls as detailed under Section 8.4.1 - Access Platform Ground Control Operation.

**Note:** When in Emergency mode with the platform outside the "stowed" position, recovery will only be allowed in 5 second intervals. The emergency recovery button must be released and pressed again for a further 5 seconds of movement.

### **8.11.2.2      Machine Failure When Operator In Access Platform**

If all machine power is lost, the Emergency Hand pump can be used to provide the hydraulic power to manoeuvre the access platform only.

Open the cover and remove the handle from the back panel and fit to the pump.

Operate the relevant control lever while actuating the emergency hand pump.

**FOLLOWING AN EMERGENCY DESCENT RECOVERY OF THE PLATFORM, FULLY EXTEND AND RETRACT ALL CYLINDERS FROM GROUND CONTROL STATION BEFORE USING THE MACHINE.**



Figure 8.11.1

### **8.11.3      Emergency On Rail Towing of Vehicle**

Should it become necessary to tow the machine along the railway line, the following procedure should be adopted.

Select an appropriate vehicle for towing which has sufficient un-braked towing capability to handle the broken down vehicle on the infrastructure concerned.

Always couple to the towing vehicle before releasing park brakes or other drive systems on the disabled vehicle.

Connect towing vehicle to machine with the tow bar, stowed on the axle.

#### **8.11.3.1      Electrical Controls Functioning**

With machine in Dumper mode, i.e. Basket stowed, select dumper mode on key selector switch.

Switch on the dumper ignition.

Start either engine (see appropriate section for detail).

Select neutral on gear lever and release handbrake.

Select forward or reverse to release rail axle brakes.

**Note:** Driver must remain on the seat.

Towing may commence.

Maximum emergency towing speed is 10 km/h (6 m/h).

Reverse above actions when recovery is complete.

This is effectively 'travelling' normally but being out of gear to utilise another vehicle for propulsion and braking.

Park brake and normal machine service brakes will work normally, assuming they are not reason or cause of failure and may be used if necessary.

#### **8.11.3.2 Electrical Controls Not Functioning Normally**

If control, electrical or other problem prevent 'normal' operation of travel mode controls as above, the rail axle freewheel and rail axle brake release valves may be overridden.

Override axle free wheel valve 9Y5.

Override brake release valve 9Y4.

Run either engine (see appropriate section for detail).

Release handbrake.

Park brake and normal machine service brakes will work normally, assuming they are not reason or cause of failure and may be used if necessary.

**Note** - Reverse above actions when recovery is complete.

**Note** - Following recovery, all overridden valves must be returned to their normal state.

#### **8.11.4 Emergency Operation of Hydraulic Creep Speed Drive**

Emergency operation of creep speed drive can be achieved by manually operating the valve lever 9Y6 with other valves modulated as below.

Either engine can be running as power source.

Exercise extreme care if using this valve. Do not operate whilst standing alongside vehicle.

This valve will not function to propel if machine is in dumper mode.

Valve 9Y1 Dumper / Platform should be energised or overridden.

Valve 9Y2 Drive / Platform divert must not be energised or overridden.

Mechanical hand brake must be released to allow movement.

Rail marker lights will not change to show white in direction of movement.

### **8.11.5 Emergency Operation of Rail Axles**

Axle operation can be achieved using normal controls and methods, with the auxiliary engine running in place of the main engine. Normal interlock conditions will apply. Platform must be stowed and steering lock valve must be in unlocked position. Power must be available to control system and machine switched to dumper mode with dumper ignition on.

**Where electrical or other problems prevent normal operation the following valve override may be required.**

12Y1 Axle enable.

Running either engine will provide hydraulic power to axle control valves.

Ensure that valve 9Y1 is not energised or overridden.

**Note -** Following recovery, all overridden valves must be returned to their normal state.

### **8.11.6 Hydraulic Solenoid Operated Valve Override Procedure**

In the event of electrical system malfunction it is possible to manually over-ride the operation of the hydraulic solenoid valves by screwing in the black knob on each valve carrier (e.g. 9Y1, 9Y3); or screwing out brass screw on valve (e.g. 9Y4).

*Hydraulic solenoid valves must only be used in the manually over-ridden state under emergency conditions, for example to recover a disabled machine. If it is necessary to use the over-ride function, the machine must be immediately removed from service and the fault cured before commencing work again. Ensure that the over-ride state is re-set to normal at this time.*

Only approach the machine and manually control the valves when machine is stopped and it is safe to do so under direction of driver or machine controller. Dismount and stand clear before machine is operated again.

Valve locations:

**Note:** Numbers below refer to solenoid coil ID numbers, not valve numbers.

- 9Y1 Rear of machine, under air intake filter (Fig 8.11.4).
- 9Y2 Off side, behind battery compartment (Fig 8.11.2).
- 9Y3 Near side, central underside of machine (Fig 8.11.3).
- 9Y4 Off side, behind battery compartment (Fig 8.11.2).
- 9Y5 Off side, behind battery compartment (Fig 8.11.2).
- 12Y1 Near side, beneath floor plate, accessible through access cover (Fig 8.11.5).
- 12Y2 Off side, adjacent to ground access platform controls (Fig 8.11.6).

See hydraulic drawings HCD0080 S1, S2 and S3

Valve functions:

9Y1	De-energised	Rail axle control and steering.
	Operated	Platform and platform drive (hydraulic low speed drive on rail wheels).
9Y2	De-energised	Platform drive.
	Operated	Access platform from ground or basket.
9Y3	De-energised	4 wheel steer.
	Operated	Independent front and rear steer.
9Y4	De-energised	Normal operation.
	Operated	Releases drive brake when the engine is running.
9Y5	De-energised	Hydraulic drive - normal mode.
	Operated	Hydraulic drive in free wheel mode to enable towing on rail wheels.
12Y1	De-energised	Rail axle Raise / Lower inhibited.
	Operated	Rail axle Raise / Lower enabled.
12Y2	De-energised	Platform levelling inhibited.
	Operated	Platform levelling enabled.



Figure 8.11.2

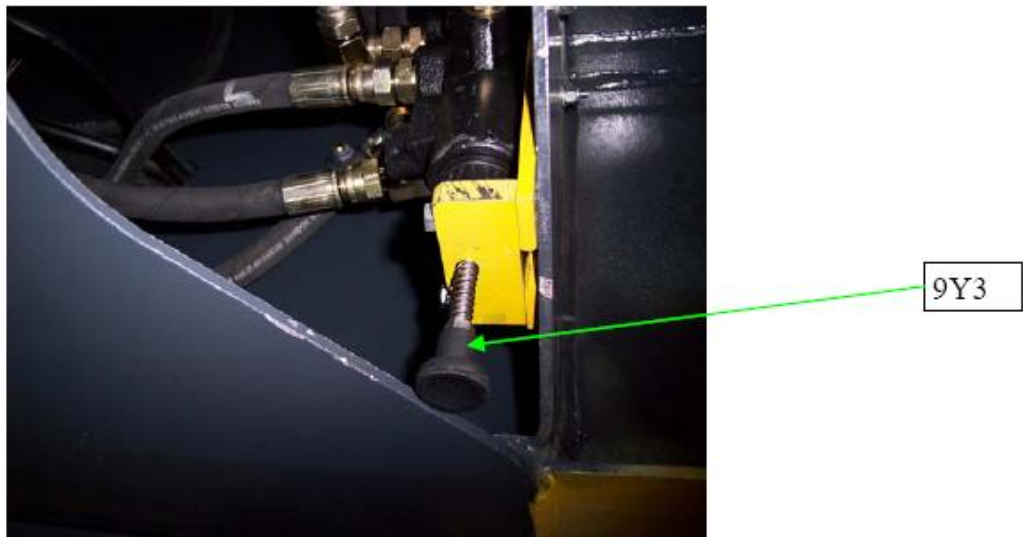


Figure 8.11.3



Figure 8.11.4



Figure 8.11.5

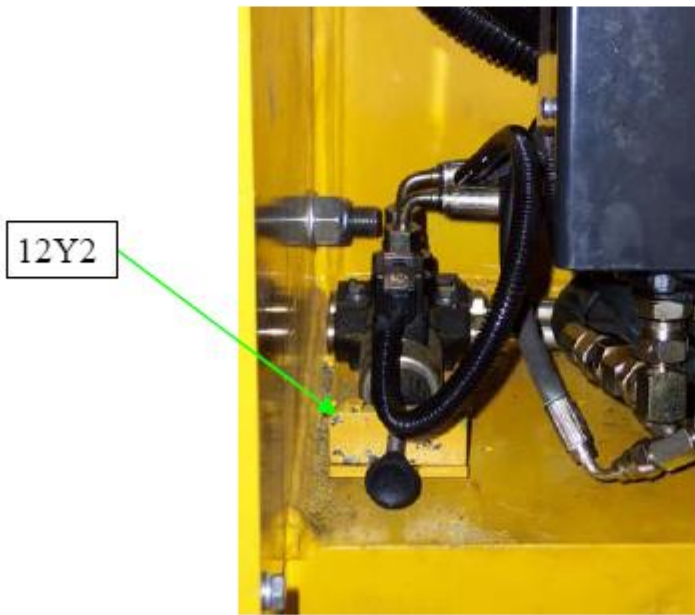


Figure 8.11.6

### **8.11.7 Other Hydraulic Valves**

10Y1 - This Valve Does Not Need To Be Overridden For Emergency Recovery.

10Y1 De-energised	Normal operation.
Operated	Applies footbrake.

**Note:** Valve energised during emergency stop if the deadman switch is released whilst travelling in 4<sup>th</sup> gear.

9Y6 (SV7) Drive control valve. Fig 8.11.2

This valve has a control lever which is used for manual operation of creep speed drive. Exercise extreme care if using this. Do not operate whilst standing alongside vehicle.

This valve will not function if machine is in platform mode.

### **8.11.8 Incident Notification**

It is a mandatory requirement that any accident or incident involving an AR17, regardless of whether any party received injury or property was damaged, be reported immediately by telephone directly to Niftylift.

Failure to do so may render any warranty on the machine void.