

# TRAILER MOUNTED SOIL TESTING EQUIPMENT



## OPERATORS MANUAL



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# PRODUCT DESCRIPTION

## **PROBE ASSEMBLY**

The Daybreak Trailer Mounted Soil Sampler is designed to be a self contained testing unit, able to be towed by any appropriate vehicle.

The Sampler includes a 1.5 M stroke hydraulic cylinder which is hydraulically elevated to its working position.

The system is powered by a petrol 12HP Honda motor which drives a 12cc hydraulic pump.

The hydraulic pump provides adequate power for lifting and lowering the unit, power to drive the probe into the ground and providing power to the automatic jack hammer.

The unit is controlled by hydraulic spool valves, one located at the rear, which operates the mast. The second hydraulic spool valve is located on the side of the mast and operates the vertical movement of the probe.

Always use a smooth and controlled movement on the lever to prevent any unwanted jerking.



## STEP 1 : REMOVE TRANSPORTATION SAFETY GUARD

THE TRANSPORTATION SAFETY GUARD MUST BE REMOVED BEFORE OPERATION. REMOVE THE SAFETY GUARD FROM THE PULL AND STOW IT IN THE PROVIDED LOCATION, BEHIND THE SOIL SAMPLE CONTAINER HOLDERS.



## STEP 2 : PRE START SYSTEM CHECKS

ALWAYS ENSURE OIL LEVEL IS KEPT TO THE REQUIRED LEVEL. CHECK OIL LEVEL BY UNSCREWING THE DIPSTICK AND OBSERVING THE MARKINGS ON THE DIPSTICK. REPLACE THE DIPSTICK

CHECK THE HYDRAULIC OIL LEVEL BY OPENING THE TANK CAP. USE TRACTOR HYDRAULIC FLUID SUCH AS CALTEX AW68 OR EQUIVALENT.

GREASE THE MAJORITY OF PIVOT POINTS & ROTATING HEAD USING GENERAL PURPOSE GREASE.



## STEP 3 : ENGAGE SUPPORT STANDS

REMOVE PIN AND DROP SUPPORT STANDS. ADJUST STANDS, ENSURE ALL PINS AND LINCH PINS ARE IN GOOD CONDITION AND ARE PROPERLY INSERTED.

THE FRONT STANDS PIVOT BELOW THE CHASSIS, THIS ALLOWS THE UNIT TO BE MOVED FROM TEST SITE TO TEST SITE WITHOUT THE NEED TO RAISE THE SUPPORT STANDS.

THIS IS ONLY FOR OFF-ROAD USE. DO NOT TRAVEL ON PUBLIC ROADS WITH SUPPORT STANDS EXTENDED.



## STEP 4 : STARTING THE MOTOR

ENSURE FUEL TAP IS OPEN BY FLICKING IT TO ON, USE CHOKE TO EASE STARTING OF THE ENGINE WHEN COLD, ALLOWING IT TO WARM UP FOR 15 - 20 SECONDS BEFORE TURNING THE CHOKE TO OFF.

START THE ENGINE USING THE IGNITION KEY. THE PULL START CAN ALSO BE USED AS A BACKUP, IF THE VEHICLE HAS A FLAT BATTERY.

PULL THE CORD, REMEMBERING TO RELEASE IT ONCE THE ENGINE HAS FIRED UP.



## **STEP 5 : RAISE TESTING PROBE MAST**

USE THE HYDRAULIC SPOOL VALVE LOCATED AT THE REAR OF THE TRAILER, IN FRONT OF THE ENGINE, TO RAISE THE MAST INTO POSITION.

ENSURE TO KEEP EVEN PRESSURE ON THE SPOOL VALVE HANDLE TO AVOID JERKING MOVEMENT OF THE MAST. THE MAST WILL LOCK INTO POSITION ONCE ITS WORKING POSITION HAS BEEN REACHED.



## **STEP 6 : RAISE JACK HAMMER AND ATTACH PROBE**

RAISE THE JACKHAMMER TO ALLOW CONNECTION OF THE TESTING PROBE BY USING THE HYDRAULIC SPOOL VALVE HANDLE LOCATED ON THE SIDE OF THE PROBE MAST.



## **STEP 7 : INSERT JACK HAMMER SHAFT**

ONCE THE HEAD IS AT A GOOD WORKING HEIGHT, ATTACH THE JACK HAMMER SHAFT TO THE HEAD.

PULL DOWN ON THE YELLOW HANDLE, THEN INSERT THE SHAFT. PUSH UP TO LOCK IT IN PLACE, THEN PUSH THE YELLOW HANDLE BACK IN.

CONTINUE TO RAISE THE HEAD UNTIL THERE IS ENOUGH ROOM BETWEEN THE JACK HAMMER SHAFT AND THE GROUND, TO ALLOW THE TESTING PROBE TO BE FITTED.

THE TESTING PROBE SHAFT IS LOCATED IN THE MAIN SECTION OF THE TOOLBOX.



## **STEP 8 : ATTACH THE PROBE**

ATTACH THE PROBE TO THE JACK HAMMER SHAFT AND LOCK IT IN PLACE WITH THE PIN AND R CLIP.



## **STEP 9 : SET-UP TESTING EQUIPMENT**

OPEN THE TOOLBOX AND REMOVE THE SOIL TESTING CONTAINERS. THE LID OF THE TOOLBOX IS GAS STRUT ASSISTED. THIS WILL HOLD THE LID OPEN, ALLOWING BOTH HANDS TO BE USED WHEN LIFTING OUT THE TESTING EQUIPMENT.

REMEMBER TO KEEP HANDS CLEAR WHEN CLOSING THE LID.

PLACE EACH CONTAINER INTO THE CONTAINER HOLDERS ON THE TEST BENCH SIDE OF THE TRAILER.

ENSURE CONTAINERS ARE KEPT CLEAN BEFORE AND AFTER USE. THIS WILL HELP PREVENT CROSS CONTAMINATION WHEN TESTING.

YOU CAN ALSO STORE TOOLS AND OTHER EQUIPMENT IN THE SEPARATE SECTION OF THE WATERPROOF TOOLBOX



## **STEP 10 : SAMPLE COLLECTION**

NOW THAT ALL THE EQUIPMENT HAS BEEN SET UP, YOU CAN COLLECT YOUR SOIL SAMPLES.

APPLY SLOW AND EVEN PRESSURE TO THE SPOOL VALVE HANDLE ON THE MAST, TO PUSH THE PROBE INTO THE GROUND.

IN SOFT SOIL, THE PROBE WILL PENETRATE THE GROUND EASILY, BUT SHOULD THE PROBE COME ACROSS HARDER GROUND, IT WILL AUTOMATICALLY ENGAGE THE JACK HAMMER TO ALLOW THE PROBE TO CONTINUE DOWN TO THE REQUIRED DEPTH.

ONCE A SAMPLE HAS BEEN COLLECTED, REMOVE THE PROBE AND EMPTY THE CONTENTS INTO THE CALIBRATED STAINLESS STEEL TROUGHS ON THE WORKBENCH.



## **STEP 11 : REMOVING THE PROBE**

REMOVE THE PIN AND R CLIP, THEN DETACH THE PROBE, STOW IT BACK IN THE TOOLBOX.

PULL DOWN ON THE YELLOW HANDLE TO REMOVE JACKHAMMER SHAFT.

LOWER THE JACK HAMMER HEAD DOWN FULLY.

REMEMBER TO REPLACE ANY PINS, LYNCH PINS AND R CLIPS THAT YOU MAY HAVE REMOVED.



## **STEP 12 : CLEAN TESTING EQUIPMENT**

CLEAN DOWN ALL USED TESTING CONTAINERS AND STOW THEM IN THE TOOLBOX.

CLEAN ANY OVER SPILLED SOIL FROM THE WORK BENCH AND TROUGH.

CAREFULLY CLOSE THE LID OF THE TOOLBOX, REMEMBERING TO KEEP HANDS AWAY FROM THE CLOSING LIP.

CLOSE OVER THE LOCK PLATE AND ATTACH THE LOCK IF ONE IS BEING USED.



## **STEP 13 : CORRECT SHUTDOWN PROCEDURE OF THE EQUIPMENT**

- LOWER THE JACK HAMMER HEAD FULLY, THEN LOWER THE MAST SLOWLY. TURN OFF THE ENGINE THEN SHUT FUEL TAP.
- RAISE THE SAFETY STANDS AND ENSURE PINS ARE CORRECTLY IN PLACE. DO NOT TRAVEL WITH SAFETY STANDS EXTENDED.
- REATTACH THE TRANSPORTATION GUARD ONTO THE FRONT PULL AND SECURE IN PLACE WITH PINS AND R CLIPS.
- SECURE MAST IN PLACE WITH SNAP STRAP. THE UNIT CAN THEN BE MOVED SAFELY TO ITS STORAGE LOCATION.

# MAINTAINENCE

CHECK ENGINE OIL LEVEL BEFORE USE.

ENSURE PETROL CAP IS SECURE AND AVOID SPILLING FUEL ONTO ENGINE

MAKE SURE ALL PINS ARE SECURE AND COMPLETE WITH THE APPROPRIATE LYNCH PIN AFFIXED

CHECK ALL TIRE PRESSURES BEFORE SETTING OFF

CHECK ALL LIGHTS ARE IN WORKING CONDITION BEFORE SETTING OFF

ALWAYS ENSURE MAST STRAP IS IN PLACE BEFORE SETTING OFF

CHECK ALL HYDRAULIC FITTINGS FOR LEAKS. LEAKS MUST BE RECTIFIED BEFORE USING THE MACHINE

CHECK HYDRAULIC OIL LEVEL USING SIGHT ON THE OIL TANK  
USE TRACTOR HYDRAULIC FLUID - CALTEX AW68 OR EQUIVALENT

ALWAYS CLEAN OFF EQUIPMENT AFTER USE

# **SAFETY**

**NEVER OPERATE THE MACHINE IF ALL PINS ARE NOT SECURE**

**NEVER DRIVE ON PUBLIC ROADS WITH THE MAST RAISED**

**NEVER DRIVE ON PUBLIC ROADS WITH ENGINE RUNNING**

**NEVER OPERATE THE MACHINE WITHOUT VEHICLE PARK BRAKE APPLIED**

**NEVER OPERATE THE MACHINE WITHOUT STABILISER LEGS BEING PROPERLY FITTED AND ADJUSTED AS PER THE OPERATING INSTRUCTIONS**

**NEVER DRIVE ON PUBLIC ROADS WITH STABILISER LEGS LOWERED**

**WAIT FOR ALL MOVEMENT TO STOP BEFORE SERVICING THE MACHINE**

**DO NOT LEAVE ANY LOOSE ITEMS ON THE TRAILER WHEN TRAVELING ON PUBLIC ROADS**

**DO NOT LET ANY PERSON RIDE ON BOARD THE MACHINE AT ANY TIME**