

HI-LO DETECTORS

INSTRUCTION MANUAL



HI-LO DETECTORS

GENERAL INFORMATION

The Hi-Lo Detector is a machine for measuring planeness of pavement surfaces.

Rolled by one person, the Hi-Lo Detector registers and dye-marks high and low areas that need to be ground or re-rolled.

The Hi-Lo Detector is constructed of rectangular aluminum tubing, supported on two precision-ground, neoprene-tired, aluminum wheels in the front and rear, with a smaller indicator wheel in the center.

The indicator wheel detects high and low areas in the pavement surface. A large pointer scale, mounted above the wheel and immediately in front of the steering handle, registers these areas in full view of the operator. Variations are magnified 16 times on a vertical scale graduated in 1/8 inch increments up to 1/4 inch, high and low.

All three wheels are ground concentric to their bearings and have adjustable scraper blades that continually clear the wheels to insure accurate measurements.

ASSEMBLY

The Hi-Lo Detector is shipped fully assembled, except for attaching the operators handle and rear steering rod. The shipping crate also doubles as a storage stand when not in use.

ADJUSTING AND CHECKING ACCURACY

The Hi-Lo Detector can be quickly checked for accuracy by hooking a spring-loaded line underneath the wheels and to each end of the rectangular aluminum frame.

To set the indicator wheel exactly on the spring-loaded line. See assembly drawing AA-140.

1. Lock the pointer at the zero position on the indicator plate. (Use shoulder screw provided.)
2. Hook spring-loaded string under wheels and attach to top of each end of rectangular aluminum frame.
3. Loosen jam nuts on Det. 27 Lower Linkage Rod
4. Remove nut and bolt holding Det. 26, Rod End Bearings
5. Rotate Rod End Bearing up or down as needed.
6. Re-install Rod End Bearings - tighten nuts and bolts slightly - check to make sure Det. 25, indicator wheel, just touches stretched line.
7. Tighten all nuts and bolts. Remove shoulder bolt from indicator plate.

MAINTENANCE

With normal use and handling, this machine will perform accurately over long periods of time, and needs only occasional re-checking for accuracy.

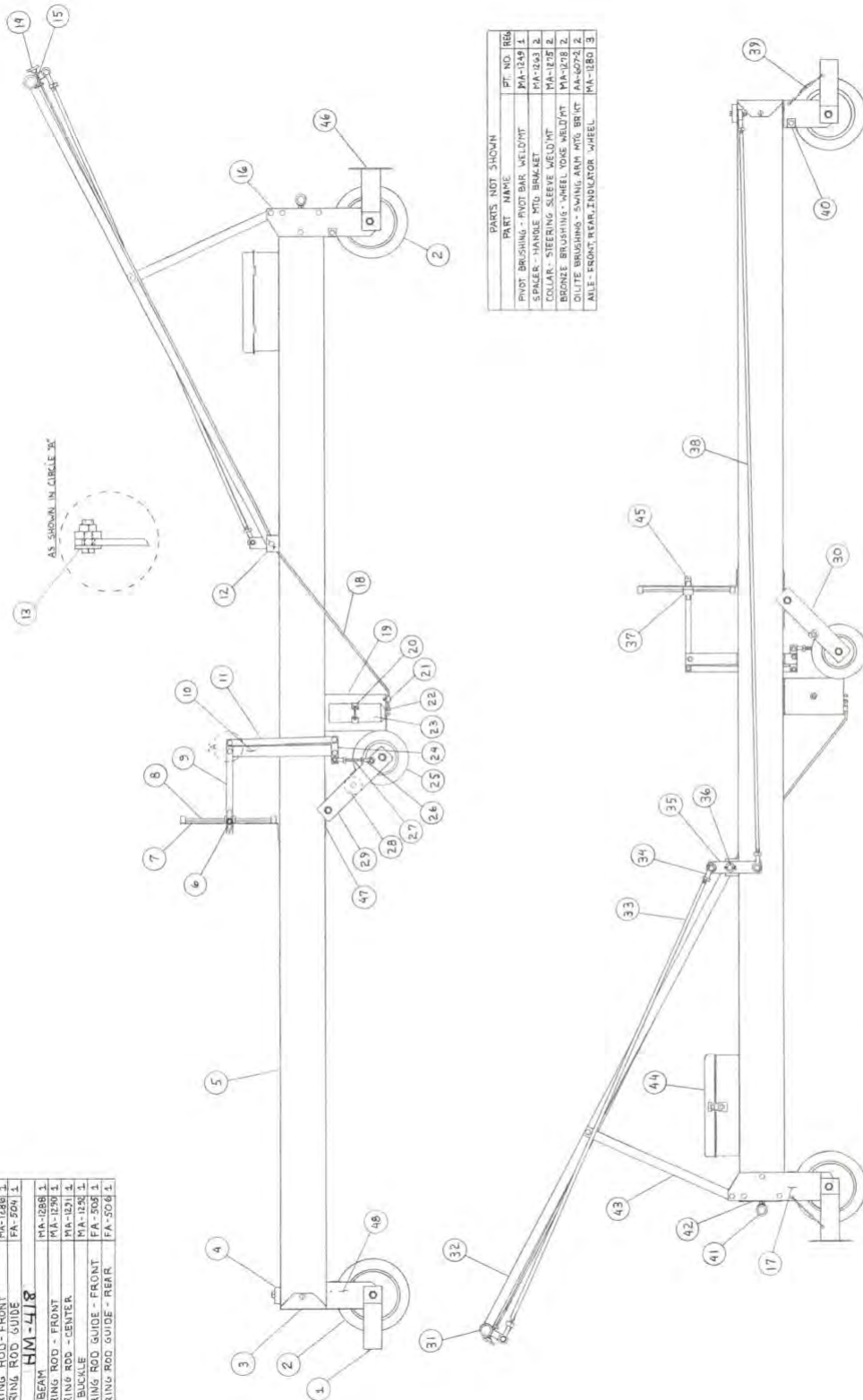
SPECIFICATIONS

Frame	Rectangular aluminum stock
Stands	Front and rear; for storage, transport and calibration
Wheels	Ground concentric with inside diameter of their ball bearings; neoprene tires and adjustable scraper blades for accuracy; one front, one rear and one center indicator wheel
Dye	Bright orange; 12 oz. (340g) aerosol can; mounts beside indicator wheel; contains no fluorocarbons; non-clogging
Handle	For steering; with button for discharging dye
Scale	Vertical; large pointer; mounted above indicator wheel; magnifies variations 16X
Gradations	1/8" or 1 mm
Readings	Magnified; range from 0 to 1/4" (6.4mm), high or low
Weights	HM-416: Net 70 lbs. (32kg); Shipping 140 lbs. (64kg) HM-417: Net 80 lbs. (36kg); Shipping 160 lbs. (73kg) HM-418: Net 102 lbs. (46kg); Shipping 200 lbs. (91kg)

MODELS/ACCESSORIES/REPLACEMENT PARTS

10' (3M) SPAN
12' (3.7M) SPAN
16' (4.9M) SPAN with reinforcing aluminum plate riveted to either side of frame
Bell/Buzzer indicator SYSTEM. Powered by a 6-volt battery
Replacement aerosol dye. Carton of 12, 12 oz. (340g) spray cans.

AUXILIARY PARTS FOR HM-417 AND HM-418			
SET	PART NAME	PT. NO.	REQ.
5	MAIN BEAM	HM-417	
38	STEERING ROD - FRONT	MA-1245	1
39	STEERING ROD GUIDE - FRONT	MA-1246	1
3	STEERING ROD GUIDE - REAR	FA-504	1
5	MAIN BEAM	HM-418	
38	STEERING ROD - FRONT	MA-1245	1
39	STEERING ROD GUIDE - FRONT	MA-1246	1
3	STEERING ROD GUIDE - REAR	FA-504	1



PARTS NOT SHOWN		
PART	NAME	PT. NO. REQ.
PIVOT BRUSHING - PIVOT BAR WELDMENT		MA-1249 1
SPACER - HANDLE MTO BRACKET		MA-1251 1
COLLAR - STEERING SLEEVE WELDMENT		MA-1252 1
BUSHING - WHEEL TONS WELDMENT		MA-1253 2
SHOCK BRUSHING - SWING ARM MTO BRACKET		MA-1254 2
AXLE - FRONT REAR INDICATOR WHEEL		MA-1255 3

* NOTE: SEE AUXILIARY BOX IN UPPER LEFT CORNER FOR EQUIVALENT PARTS

SET	PART NAME	PT. NO.	REQ.	PART NAME	PT. NO.	REQ.	
1	KICK STAND WELDMENT FRONT	MA-317	1	1	INDICATOR WHEEL	MA-1277	1
2	FRONT REAR WHEEL	MA-1248	1	2	STEERING ROD FRONT #	MA-1273	1
3	TURNING LEVER	MA-1249	1	3	STEERING ROD FRONT #	MA-1273	1
4	MAIN BEAM	MA-1250	1	4	STEERING ROD FRONT #	MA-1273	1
5	ROLLER AND SPACER	MA-1251	1	5	STEERING ROD FRONT #	MA-1273	1
6	INDICATOR PLATE WELDMENT	MA-1252	1	6	STEERING ROD FRONT #	MA-1273	1
7	SHOCK BRUSHING	MA-1253	1	7	STEERING ROD FRONT #	MA-1273	1
8	SHOCK BRUSHING	MA-1254	1	8	STEERING ROD FRONT #	MA-1273	1
9	UPPER PIVOT BAR	MA-1255	1	9	STEERING ROD FRONT #	MA-1273	1
10	UPPER PIVOT BAR	MA-1256	1	10	STEERING ROD FRONT #	MA-1273	1
11	UPPER PIVOT BAR	MA-1257	1	11	STEERING ROD FRONT #	MA-1273	1
12	UPPER PIVOT BAR	MA-1258	1	12	STEERING ROD FRONT #	MA-1273	1

HI-LO DETECTOR ASSEMBLY
HM-416 HM-417 HM-418
AA-140