



# HYDRAULIC MOTOR DRIVEN CENTRIFUGAL PUMP

## Installation and Operating Instructions for International Harvester 86 Series Tractors WITH OPEN-CENTER TRACTOR HYDRAULIC SYSTEMS



International Harvester 86 Series tractors equipped with open-center hydraulic systems require the installation of Model IHK-86 in order to operate the remote ports continuously. International Harvester Service Bulletin S-3436 dated 31 March 1977 advises that continuous hydraulic demand on the remote outlet valves, such as that created by hydraulic motors, can cause damage to the tractor hydraulic system. In gear driven tractors (86 Series, 2 wheel drive), the MCV pump charge circuit would not be receiving its normal flow; and in hydrostatic drive tractors, the oil cooler circuit would not be receiving its normal flow.

Installation Kit Model IHK-86 provides for continuous auxiliary circuit operation in accordance with this service bulletin.

### 86 SERIES OPEN-CENTER SYSTEMS WHICH REQUIRE THE MODEL IHK-86 INSTALLATION KIT

TRACTOR MODEL	Open or Closed Center System	Maximum Pressure Remote Outlets	Maximum Flow Remote Outlets US GPM	ACE PUMP MODEL RECOMMENDATION						
				1 1/4" x 1" SERIES			1 1/4" x 1" FMCH SERIES		2" x 1 1/2" SERIES	
				FMC or FMCL -HYD-204	FMC or FMCL -HYD-210	FMC or FMCL -HYD-310	FMCH -HYD-210	FMCH -HYD-310	FMC or FMCL -200-HYD-210	FMC or FMCL -200-HYD-310
886	OPEN	2250	13	✓	(1)		✓		✓	
986	OPEN	2250	12	✓	(1)		✓		✓	
HYDRO 186	OPEN	2250	12	✓	(1)		✓		✓	
1086	OPEN	2450	13	✓	(1)		✓		✓	
1486	OPEN	2450	13	✓	(1)		✓		✓	
1586	OPEN	2450	13	✓	(1)		✓		✓	

(1) Select Model FMC-HYD-210 when pumping pressures of from 60 to 100 PSI are required.

### 86 SERIES CLOSED-CENTER SYSTEMS DO NOT REQUIRE THE IHK-86 INSTALLATION KIT

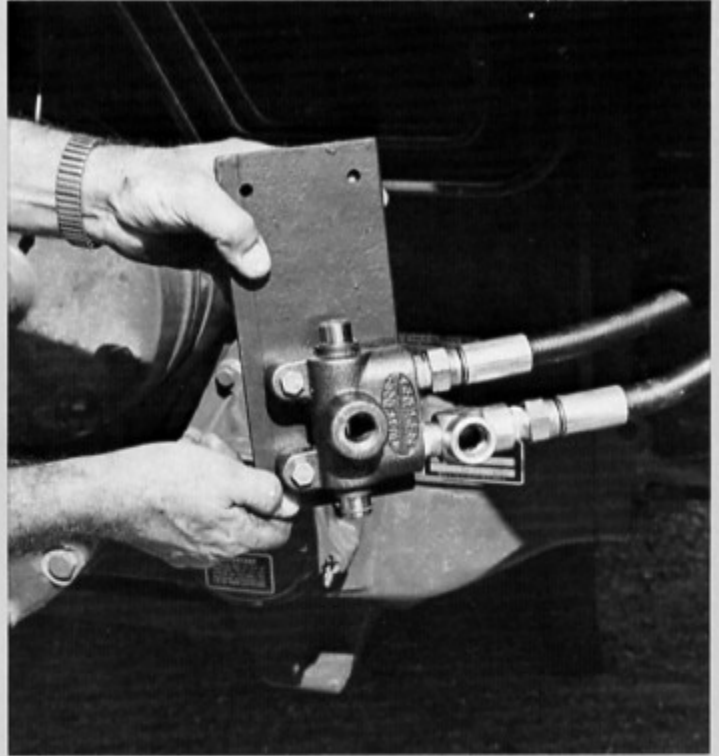
International Harvester tractors equipped with load sensing closed-center systems may be identified by referring to the book OPERATING & MAINTENANCE INSTRUCTIONS FOR ACE CENTRIFUGAL PUMP/HYDRAULIC MOTOR COMBINATIONS, or by identifying the color-coded variable flow control levers in the cab. These levers would not be present on tractors equipped with open-center systems.



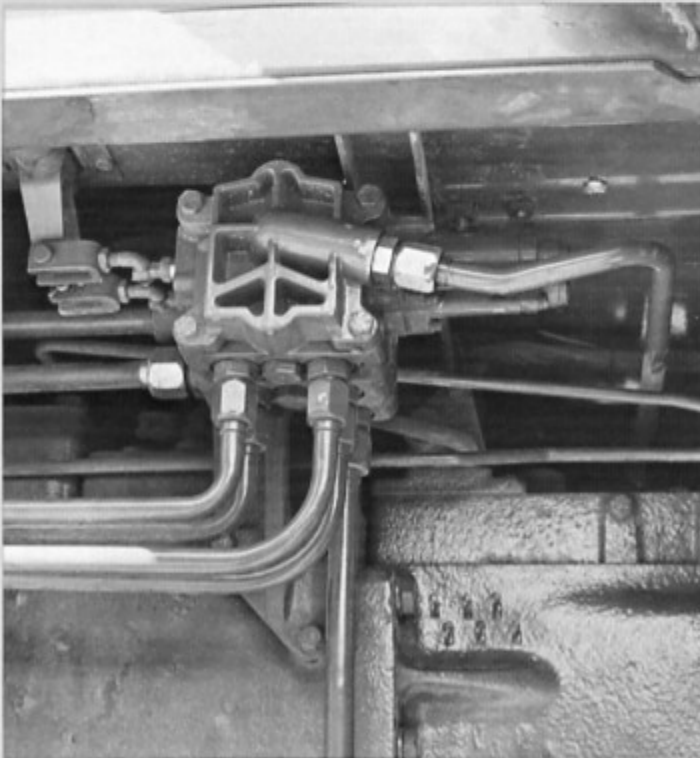
# INSTALLATION



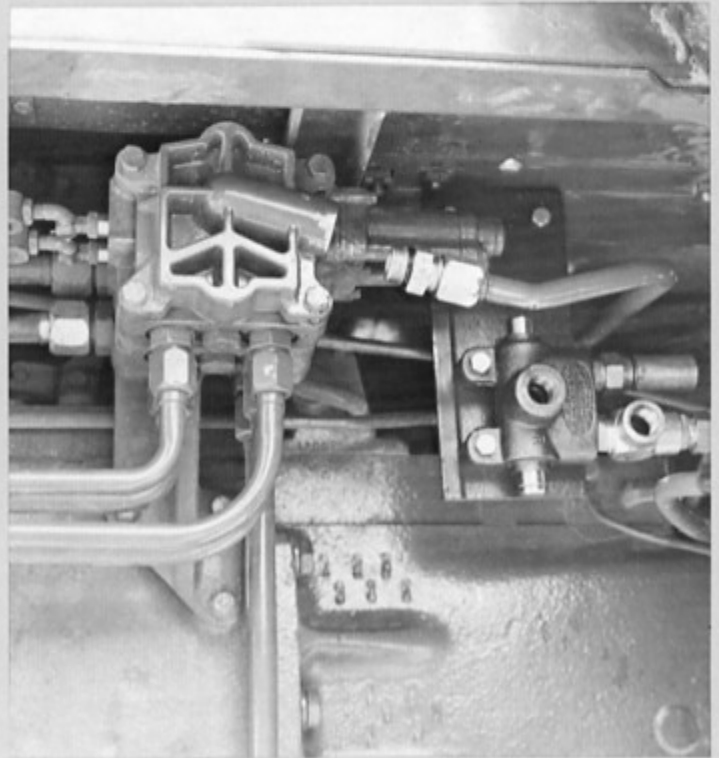
**1.** Mount hydraulic motor driven pump in desired position. The  $\frac{3}{8}$ " FPT x  $\frac{3}{8}$ " MPT elbow is attached to the outlet of the hydraulic motor. One of the 10 foot sections of hydraulic hose is secured to this elbow. The other 10 foot section of hose is now attached to the inlet port of the hydraulic motor. Do not connect the swivel fittings to the hydraulic motor.



**2.** The divider valve is attached to the mounting bracket as shown above. The  $\frac{1}{2}$ " MPT x  $\frac{1}{2}$ " FPT service tee is threaded into the divider valve bottom outlet, and the 10 foot section of hose from the hydraulic motor outlet is attached to the tee by the swivel fitting. The 10 foot section of hose from the hydraulic motor inlet is connected to the top outlet of the divider valve by the swivel fitting.



**3.** The remaining connections will be made in this area. The valve bank end plate and supercharge tube are located under the tractor floor pan on the right side approximately under the drivers seat. Disconnect the supercharge tube from the end plate, being careful to retain the adapter fitting attached to the tube fitting. Due to the limited space available it may be desirable to remove the right rear wheel.

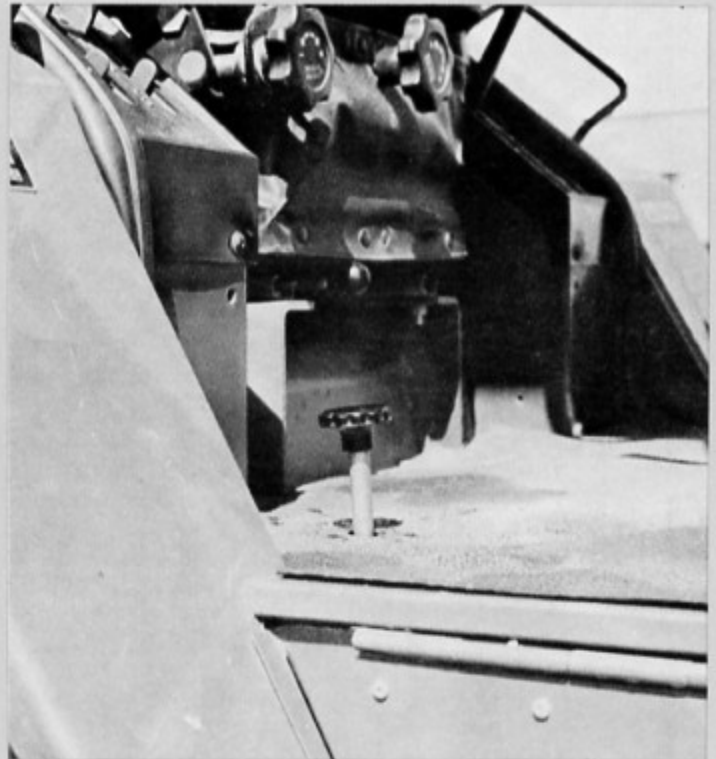


**4.** The mounting bracket with divider valve and hoses already connected may now be attached to the two pre-drilled holes in the tractor floor pan seam. Some mounting modifications may be necessary on tractors equipped with differential lock feature.

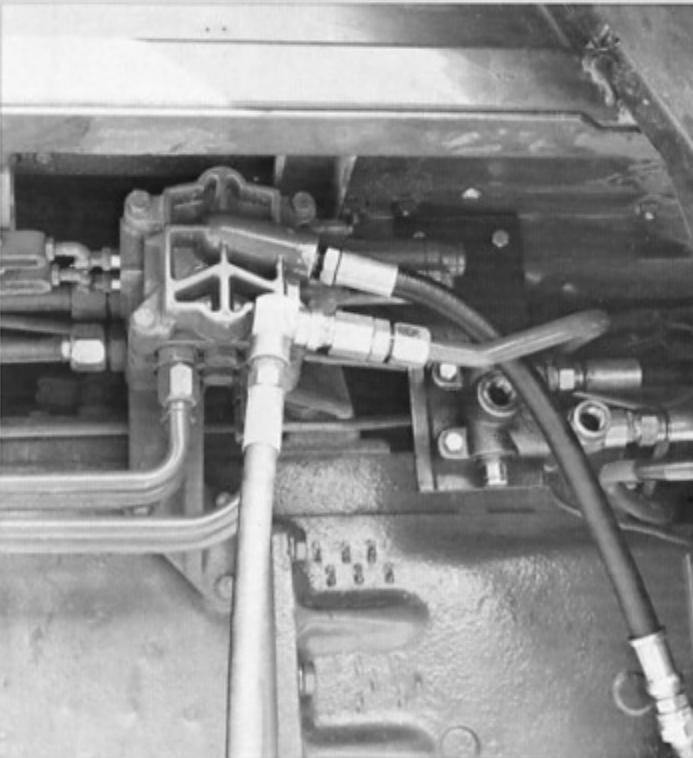
# INSTRUCTIONS



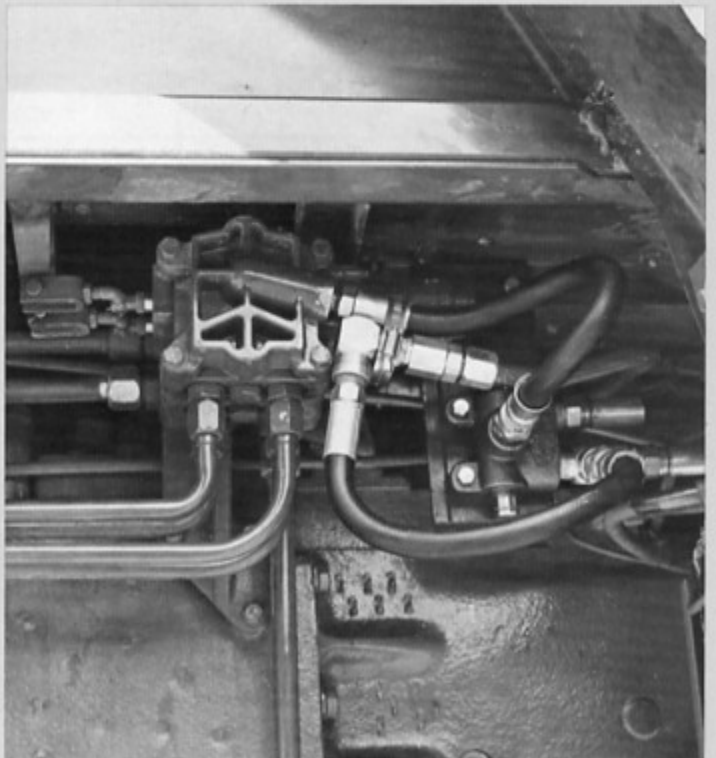
**5.** Roll back the tractor floor mat, and using the template furnished with each kit to locate the proper position, drill one  $\frac{3}{16}$ " hole in the place indicated. A somewhat smaller hole should be made in the floor mat to help preserve the air tight integrity of the cab.



**6.** The divider valve extension stem with the pancake handle attached is inserted through the floor and screwed into the divider valve spool end. To tighten, extend the spool and grasp with suitable tool above the snap ring. If the area below the snap ring is damaged, leakage may result.

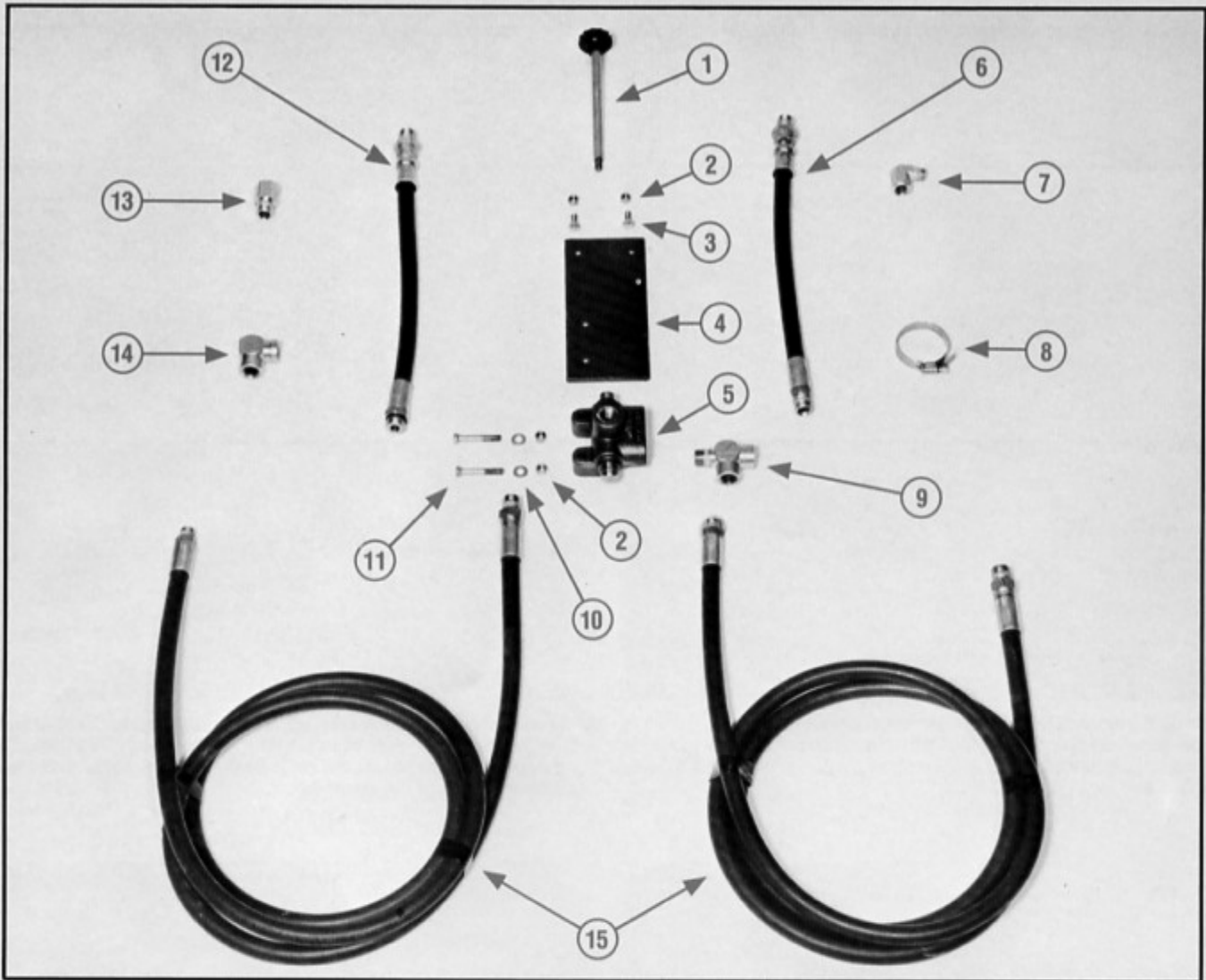


**7.** The 24" section of hydraulic hose with the  $\frac{3}{4}$ " ORB straight thread fitting should be connected to the valve bank end plate. To the supercharge tube, connect the adapter  $\frac{1}{2}$ " FPT x  $\frac{1}{2}$ " FPT elbow and the other 24" section of hose in that order.



**8.** The hose from the end plate is now connected to the divider valve inlet by the swivel fitting. The hose from the supercharge is now connected to the service tee on the bottom outlet of the divider valve by the swivel fitting.

# MODEL IHK-86 HYDRAULIC INSTALLATION KIT



## PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REQ.
1	44000	Divider valve extension stem and handle	1
2	42270	5/16" Nut	4
3	44010	5/16" x 1" Hex head cap screw	2
4	44020	Mounting Bracket	1
5	44030	Divider valve	1
6	44040	24" x 1/2" Hydraulic hose (1/2" MPT swivel x 1/2" MPT)	1
7	44050	Elbow (3/8" MPT x 3/8" FPT)	1
8	44060	Hose clamp	1
9	44070	Service tee (1/2" MPT x 1/2" FPT x 1/2" FPT)	1
10	20730	5/16" Washer	2
11	41705	5/16" N.C.-2 1/4" Hex head cap screw	2
12	44080	24" - 1/2" Hydraulic hose (1/8" ORB Male x 1/2" MPT swivel)	1
13	44090	Adapter (1/8" ORB Female x 1/2" MPT)	1
14	44100	Elbow (1/2" FPT x 1/2" FPT)	1
15	44110	10 Foot - 1/2" hydraulic hose (1/2" MPT swivel x 3/8" MPT)	2



Installation Kit Model IHK-86 installed on tractor ready for sprayer plumbing.