

**CASE INTERNATIONAL
Diesel Tractor**



ENERGY CONSERVATION

*An Energy Conservation Plan is your best insurance against waste.
Energy is Money. Don't Waste It!!*

Follow these recommendations:

1. Be sure that proper lubrication and maintenance procedures are followed. Review Operator's Manual thoroughly.
2. Take care to match weight equipment (front and rear) and tyre pressure to conform to operational requirements, soil conditions, traction, etc.
3. Be sure the equipment is properly adjusted to the task being performed. Review Operator's Manual thoroughly.
4. Matching as closely as possible the tractor size (horsepower) to the implement size and soil conditions.
5. Be sure the operator is thoroughly trained in the operation of the equipment. Review Operator's Manual thoroughly.
6. Be sure to select the proper speed range and speed gear for the job in hand to allow engine operation at or near rated speed. Avoid lugging conditions.

MAJOR SECTION CONTENTS

This operators Manual consists of the following major sections:-

	Page
1. Introduction (General Instructions, Safety Precautions)	3-6
2. Technical Data (Capacities, Dimensions, Travel Speeds, Recommended Lubricants)	7-11
3. Preparing the Tractor for Each Days Work	12-13
4. Instruments and Controls	14-21
5. Operating the Tractor (Break-in-Period, Starting and Stopping the engine)	22-24
6. Operating Adjustments (Weights, Tread Width)	25-31
7. Operating Equipment (P.T.O., Trailer Hitch, Drawbar, Three-point Suspension Hitch)	32-43
8. Maintenance	44-78
9. Storing and Housing	79-80
10. Trouble Shooting	81-84
11. Attachments (E 633, E 733, E 833 Four Wheel Drive)	85-88
12. Index	89-90

Maintenance operations described in this manual can generally be made by the operator.

Caution: *If repairs and adjustments to the fuel injection system, brake system, steering system, drive shaft, electrical system or wheels and tyres becomes necessary, contact the Case IH dealer.*

Use only genuine Case service parts. Failure due to use of "will fit" parts will not be covered by warranty.



Safety rules are given for your protection, it pays to observe them.

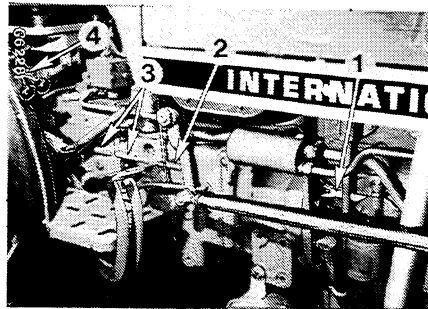
INTRODUCTION

General Instructions

1. Before starting the tractor, familiarize yourself with all instruments and controls. For your protection, read and digest the instructions in this manual. It is good practice to operate all levers on the standing tractor.
2. Avoid subjecting the new tractor to full load. The engine should not be loaded to capacity before at least 20 hours of operation. Do not overload the tractor. Overloading will result in premature wear and tear, and forfeiture of any claims under the manufacturer's guarantee.
3. Grease the tractor at the periods shown in the lubrication guide. Ensure that grease fittings are not blocked, before applying the rease gun.
4. Never refuel the tractor while the engine is hot, running or when near an open flame.
5. Do not pour cold water into the radiator when the engine is hot.
6. Do not "ride" the clutch or brakes by resting your feet on the pedals. This will cause excessive wear on the clutch release ring and brake linings. Never operate the tractor with the pto hand clutch latched in the disengaged position. Premature wear of the release bearing would result if this lever is disengaged too long.
7. Hitch loads only to the drawbar and trailer hitch, never to any other tractor parts.
8. Adjust air pressure in the tires as specified for road and field work.
9. Periodic preventive inspection and maintenance are the surest means of keeping your tractor in good working order. Prompt detection and correction of minor faults, and immediate replacement of worn out or damaged parts will prevent failures and avoid expense.
10. It pays to keep the tractor clean. When washing the tractor with a hose be careful that no water enters the injection pump, alternator or starting motor. After washing make a trial run and check clutch and brakes for proper functioning.

INTRODUCTION

11. For service and repairs on Bosch components, refer to the Bosch Serviceman.
12. In freezing temperatures there is danger of the water freezing in the cooling system (or in the tires, if filled with water). Check the instructions for cold weather precautions.
13. In cold weather allow the engine to warm up a few minutes at medium speed, prior to subjecting it to full load.
14. If the draft and position control system must be operated immediately after starting run the engine at medium speed.
15. Record the engine, chassis, transmission, and draft control serial numbers for service and parts replacement purposes. For ready reference, write these serial numbers in the spaces provided below.




Illust. 1

- 1 - Engine serial number
- 2 - Chassis serial number
- 3 - Transmission serial number
- 4 - Draft control serial number

INTRODUCTION

Safety Precautions

Designer, Safety Engineer and Safety Council have co-operated to build the highest possible degree of operating safety into this machine. However, their combined efforts can be wiped out by a single careless act of the operator. No power-driven machine, whatsoever, can be safer than the man, who is at the controls. If accidents are to be prevented - and they can be prevented - it will be done by the operators who accept a full measure of their responsibility.

 This symbol is used to call your attention to instructions concerning your personal safety. Be sure to observe and follow these instructions.

1. Only the operator is permitted to start the engine. The operator must be in possession of a valid driving licence.

2. The operator is not only responsible for the machine, but also for any persons within the operating range of the machine.

3. Be sure the speed range gearshift and pto shifter lever are in neutral before starting the engine.

4. Exhaust gases are highly poisonous. Do not start the engine in a closed area unless there is

adequate ventilation, or an exhaust decontamination device is being used.

5. Face the tractor when mounting and dismounting. Use only the steps provided for this purpose. Never attempt to get on or off while the tractor is in motion.

6. The tractor operator is responsible for the safety of any person operating a pull-behind implement or riding on a trailer hitched to the tractor.

7. Before connecting or disconnecting the power line at the pto be sure pto shifter lever is in neutral.

8. Make sure that all power line shielding is in place and in good order. When the pto is not in use, the guard cap must be fitted

9. Never allow any person to ride on the drawbar or on the rocker arms of the hydraulic lift.

10. Be sure, before operating the hydraulic lift, that everybody is well clear of rocker arms and linkage.

11. Never use the steering brakes for making turns on the highway.

12. Be extra careful when applying the brakes on slippery roads. Drive slowly.

13. Shift into low gear before going down steep hills.

INTRODUCTION

14. Do not exceed maximum permissible traveling speed.

15. Tractors without hitched rear loads should not be operated with a full bank of jerrican-weights.

16. Always see that brakes and lighting are in good working order.

17. Trailers must be equipped with brakes and warning lights according to prevailing traffic regulations.

18. Before leaving the tractor always move the speed range lever and transmission gearshift lever to the neutral position, apply the parking brake, lower mounted equipment to the ground and then stop the engine.

19. Never leave tractor unattended while the engine is running.

20. Never operate the tractor engine when cleaning or lubricating.

21. Never refuel the tractor while the engine is running or hot. Do not smoke. Do not permit an open flame when working near inflammable fuels.

22. When indoors or in built-up areas observe prevailing fire regulations for combustion engines.

23. Allow the engine to cool off before removing the cap to fill the radiator.

24. Always disconnect the battery Negative (ground) cable before working on the electrical system.

25. When removing a battery, disconnect the Negative (ground) cable first. When installing the battery, connect the negative (ground) cable last.

26. Avoid smoking and open flames in the vicinity of charging or recently charged batteries or near fuel. Battery gases ignite easily!

27. Changing or repairing of tires should be done only by an authorized workshop.

28. Misuse or modification of this machine can cause:

- mechanical breakdown,
- property damage,
- injury or death

Always use proper safety precautions.

TECHNICAL DATA

Tractor		433	533	633	733	833
Engine						
4 stroke, direct injection with pressure feed lubrication		D - 155 3 - cylinder	D - 155 3 - cylinder	D - 179 3 - cylinder	D - 206 4 - cylinder	D - 239 4 - cylinder
Rated speed	RPM	2050	2200	2180	2180	2180
Max idle speed (no load)	RPM	2265	2430	2410	2360	2410
Low idle speed	RPM	650-750	650-750	770-870	650-750	650-750
Piston Displacement	cm ³	2536	2536	2934	3382	3911
Bore	mm	98.4	98.4	98.4	98.4	98.4
Stroke	mm	111.1	111.1	128.5	111.1	128.5
Firing order		1-3-2	1-3-2	1-3-2	1-3-4-2	1-3-4-2
Compression ratio		16 : 1	16 : 1	16 : 1	16 : 1	16 : 1
Injection pump						
Static timing	BTDC	8°	8°	8°	8°	8°
Early tractors - BTDC		8°	10°	14°	12°	8°
Valve clearances (Engine hot)	mm	0.30	0.30	0.30	0.30	0.30
Battery		12V 88 AH	12V 88 AH	12V 88 AH	12V 88 AH	12V 88 AH
Nozzle holder	"Bosch" KBEL	84S4/13	84S 4/13	84S 4/13	84S 4/13	84S 4/13
Nozzles	"Bosch" DLLA	150S 836	150S 836	150S 836	150S 836	150S 836
Nozzle opening pressure						
	MPa	22.5 - 23.3	22.5 - 23.3	22.5 - 23.3	24.0 - 24.8	24.0 - 24.8
Early tractors - MPa		22.5 - 23.3	22.5 - 23.3	22.5 - 23.3	22.5 - 23.3	24.0 - 24.8
Injection pump	"Bosch" EP	VE3/10F/1025/ R 276	VE3/10F/1100/ R 276/1	VE3/10F/1090/ R 276/2	VE4/10F/1090/ RV 10484/5	VE4/11F/1090/ R176
Early tractors - "Bosch" EP		VA3/100H/ 1025 CR43-2	VA3/100H/ 1100 CR9/4	VA3/100H/ 1090 CR43-3	VA4/100H/ 1090 CR84	VE4/11F/1090/ R176
Starting motor	"Bosch" JF	12V	12V	12V	12V	12V
Alternator	"Bosch" G1	14 V 33 A 27	14 V 33 A 27	14 V 33 A 27	14 V 33 A 27	14 V 33 A 27

Capacities (Litres)

Fuel tank	60	60	60	60	60
Cooling system	13.7	14.1	14.6	16.1	17.5
Engine crankcase	6.5	6.5	6.5	9.5	9.5
Transmission case*	30(V) 33(E)	30(V) 33(E)	30(V) 33(E)	30(V) 33(E)	30(V) 33(E)
Hydraulic system	12	12	12	12	12

* When equipped with mechanical mower add 0.5 liters

PTO Shaft speed range

Engine speed at PTO shaft speed of 540 RPM	1890	1890	1890	1890	1890
Engine speed at PTO shaft speed of 1000 RPM	2042	2042	2042	2042	2042

TECHNICAL DATA

Clutch			Tire pressures			
Type	Dual plate, dry disc spring loaded		Front wheels			
	Engine clutch disc dia. mm.	290	(road work) MPa		0.2	
	PTO clutch disc dia. mm.	229	(field work) MPa		0.15 - 0.20	
			Rear wheels Refer to "Pneumatic Tires"			
Dimensions	V - Tractors			E - Tractors		
	433/533/633 4,50 - 16		733/833 5.50 - 16	5.50 - 16		
On front tires						
On rear tires	433 9.5 - 24	533/633 11.2 - 24	733/833 12.4 - 28	433 11.2 - 28	533/633 12.4 - 28	733/833 12.4 - 28
Length overall mm.						
With three point hitch	3285	3285	3406	Cat I 3304	Cat I 3304	Cat I 3425
	2930	2958	3115	Spec. connect. 3468	Spec. connect. 3468	Spec. connect. 3587
Without three point hitch	2930	2958	3155	3008	3035	3128
Width to outside edge of tires mm.						
at min. tread	1016	1168	1198	1330	1363	1324
at max. tread	1506	1628	1529	1932	1965	1526
Height to top of steering wheel mm.	1327	1350	1375	1380	1404	1353
Height to top of safety frame mm.	2185	2208	2445		2282	2390
Wheelbase mm.	1920	1920	2040	1920	1920	2040
Minimum ground clearance mm.						
Std front axle	343	343	365	425	425	425
High clear front axle	403	403	425	505	505	505
Transmission case	308	331	405	381	405	405
Minimum turning radius* mm.						
With brakes	2970	2970	3200**	3330	3330	3225**
Without brakes	3190	3190	3400**	3540	3540	3425**
* V Tractors with tread width			* E Tractors with tread width			
	Front	810	960**	Front	1116	1115**
	Rear V 433	846	890**	Rear	1023	1070**
	V 533/633	861				

** With rear tires 13.6 - 28
(Specifications subject to change without notice)

TECHNICAL DATA

Travelling Speeds

Two optional speed reducer versions are available:-

Version "A" Speed reducer with a reduction of approximately 15% in all gears

Version "B" Speed reducer with a reduction of approximately 75% in all gears

With field range and speed reducer engaged the bottom two gears of version "B" are creep speeds.

The following speed charts show regular operating speeds (O) and speeds with ratio version "A" and "B" as above.

The following speed charts are a guide only. Speeds may vary slightly between V and E models, and different tire sizes

O Without speed reducer A and B speed reducer versions

433 V 25 km/h with 11.2 - 24 rear tires

Range	FIELD				ROAD				REVERSE			
	1	2	3	4	1	2	3	4	1	2	3	4
Speed												
O	1.3	2.3	3.5	5.9	5.0	8.6	13.1	25.0	1.9	3.2	4.9	8.2
A	1.1	1.9	3.0	5.6	4.2	7.3	11.2	18.6	1.6	2.7	4.2	6.9
B	0.3	0.5	0.8	1.4	1.2	2.0	3.0	5.0	0.4	0.7	1.1	1.9

533 V 25 km/h with 11.2 - 24 rear tires

Range	FIELD				ROAD				REVERSE			
	1	2	3	4	1	2	3	4	1	2	3	4
Speed												
O	1.4	2.5	3.8	6.3	5.4	9.2	14.1	25.0	2.0	3.4	5.3	8.8
A	1.2	2.1	3.2	5.4	4.6	7.8	12.0	20.0	1.7	2.9	4.5	7.5
B	0.3	0.6	0.9	1.4	1.2	2.1	3.2	5.4	0.5	0.8	1.2	2.0

633 V 25 km/h with 11.2 - 24 rear tires

Range	FIELD				ROAD				REVERSE			
	1	2	3	4	1	2	3	4	1	2	3	4
Speed												
O	1.4	2.4	3.7	6.2	5.3	9.1	14.0	25.0	2.0	3.4	5.2	8.7
A	1.3	2.1	3.2	5.3	4.5	7.7	11.9	19.8	1.7	2.9	4.4	7.4
B	0.3	0.6	0.9	1.4	1.2	1.2	3.4	5.6	0.5	0.8	1.2	2.0

633/733/833 E 25 km/h with 13.6 - 28 rear tires

Range	FIELD				ROAD				REVERSE			
	1	2	3	4	1	2	3	4	1	2	3	4
Speed												
O	1.5	2.6	4.0	6.7	5.7	9.7	15.0	25.0	2.1	3.6	5.6	9.3
A	1.3	2.2	3.4	5.7	4.9	8.3	12.8	21.3	1.8	3.1	4.8	7.9
B	0.3	0.6	0.9	1.5	1.3	2.2	3.5	5.8	0.5	0.8	1.3	2.1

633/733/833 30 km/h with 13.6 - 28 tires

Range	FIELD				ROAD				REVERSE			
	1	2	3	4	1	2	3	4	1	2	3	4
Speed												
O	1.5	2.6	4.0	6.7	6.2	10.6	16.3	30.0	2.1	3.6	5.6	9.3
A	1.3	2.2	3.4	5.7	5.2	9.0	13.8	23.1	1.8	3.1	4.7	7.9
B	0.3	0.6	0.9	1.5	1.4	2.4	3.7	6.2	0.5	0.8	1.2	2.1

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