730 - 830
Tractors

Operators Manual

9-1566

CASE

This symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED. The message that follows the symbol contains important information about your safety. Carefully read the message. Make sure you fully understand the causes of possible injury or death. SB001

IF THIS MACHINE IS USED BY AN EMPLOYEE, IS LOANED, OR IS RENTED, MAKE SURE THAT THE OPERATOR UNDERSTANDS THE TWO INSTRUCTIONS BELOW.

BEFORE THE OPERATOR STARTS THE ENGINE:

1. GIVE INSTRUCTIONS TO THE OPERATOR ON SAFE AND CORRECT USE OF THE MACHINE.
2. MAKE SURE THE OPERATOR READS AND UNDERSTANDS THE OPERATOR'S MANUAL FOR THIS MACHINE.

WARNING

IMPROPER OPERATION OF THIS MACHINE CAN CAUSE INJURY OR DEATH.

BEFORE STARTING THE ENGINE, DO THE FOLLOWING:

1. READ THE OPERATOR'S MANUAL.
2. READ ALL SAFETY DECALS ON THE MACHINE.
3. CLEAR THE AREA OF OTHER PERSONS.

LEARN AND PRACTICE SAFE USE OF MACHINE CONTROLS IN A SAFE, CLEAR AREA BEFORE YOU OPERATE THIS MACHINE ON A JOB SITE.

It is your responsibility to observe pertinent laws and regulations and to follow manufacturer's instructions on machine operation and maintenance.

See your Authorized Case dealer for additional operator's manuals, parts catalogs, and service manuals.

TO THE PURCHASER OF A CASE TRACTOR

The care you give your new Case Tractor will greatly determine the satisfaction and service life you will obtain from it. Use this manual as your guide. By observing the instructions and suggestions in this manual, your Case Tractor will serve you well for many years.

As an Authorized Case Dealer, we stock Genuine Case Parts, which are manufactured with the same precision and skill as the original equipment. Our factory trained staff is kept well informed on the best methods of servicing Case equipment and is ready and able to help you.

Should you require additional aid or information, contact us.

Your Authorized Case Dealer

HI FOLKS!-I'm Sammy Safety. Look for me to point out important Safety Precautions

To insure efficient and prompt service, please furnish us with the Model, Serial and Engine Numbers of your Tractor in all correspondence or contacts.

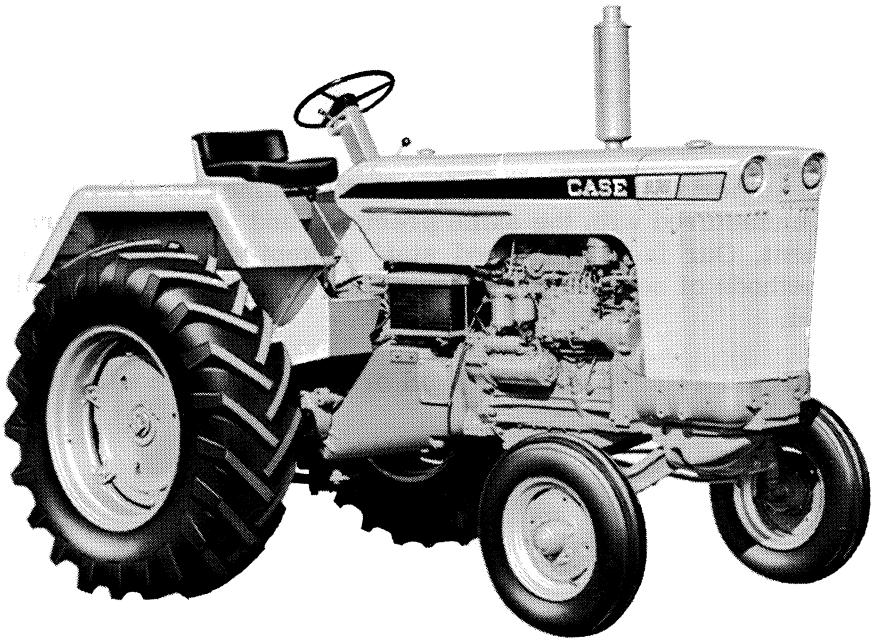


Figure 1

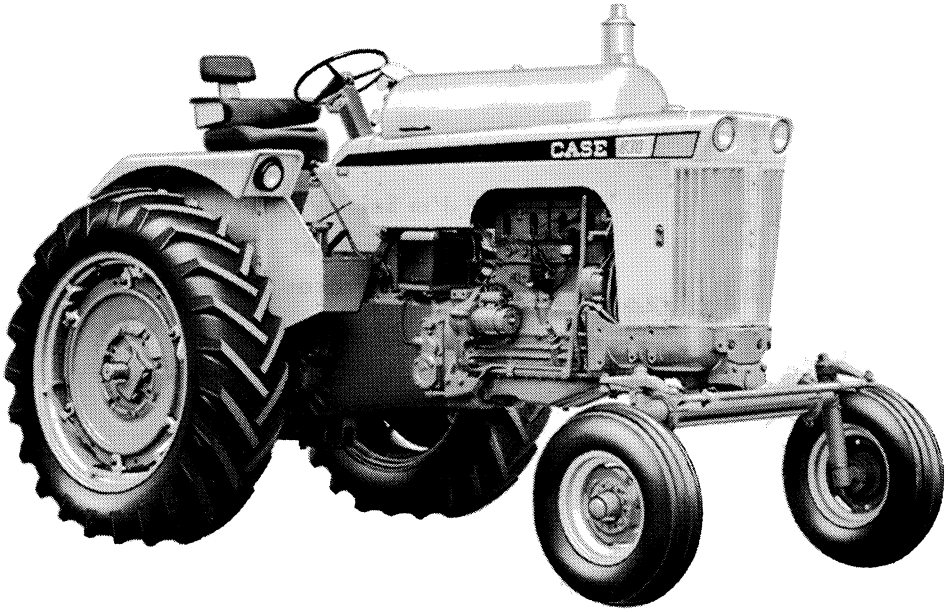


Figure 2

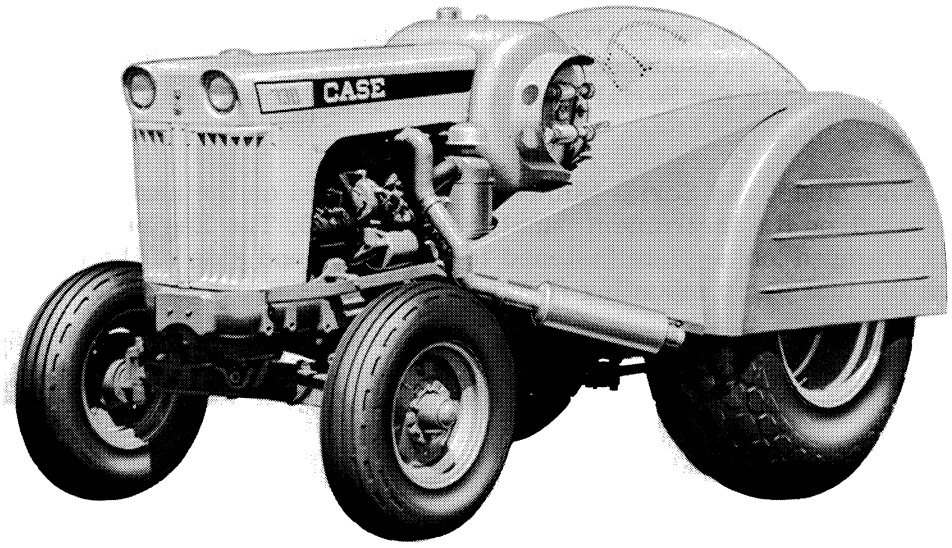


Figure 3

Figure 4

SERIAL NUMBERS

When ordering parts from your Authorized Case Dealer and in all contacts or correspondence with your dealer relative to the Tractor always specify the Serial, Model and Engine Numbers of your Tractor.

The Model and Serial Numbers are stamped on the number plate located on the instrument panel. See Figure 5. The Engine Number is stamped on a plate fastened to the right hand side of the engine on the fuel pump mounting flange, Figure 6.

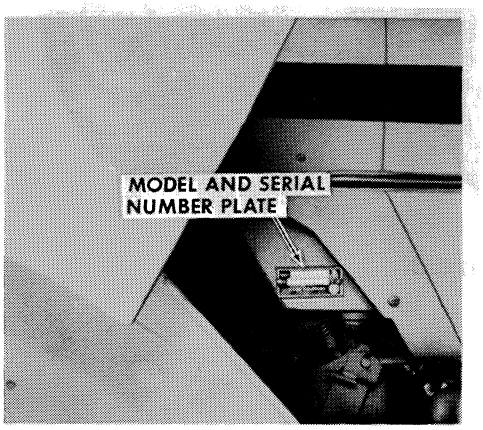


Figure 5

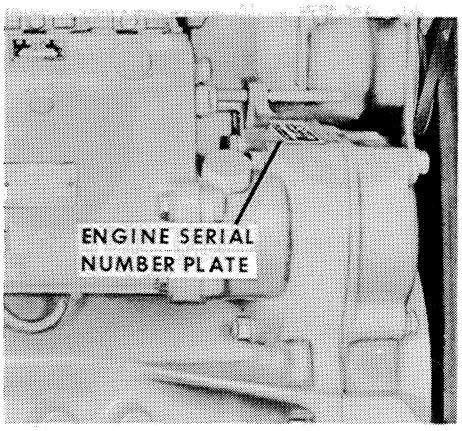


Figure 6

NOTE The terms "Right Hand" and "Left Hand" whenever used in this manual apply to the tractor when facing in the direction the tractor will move in forward operation.

For reference, fill in the Serial Number, Model Number and Engine Number of your Tractor in the spaces provided below.

Model Number _____

Engine Number _____

Serial Number _____

Model Designations

730, 740, 830 and 840 -- Standard 4 Wheel
731, 741, 831 and 841 -- General Purpose
732, 742, 832 and 842 -- Western Special
733, 743, 833 and 843 --- High Clearance
734 and 744 ---------- Grove

Abbreviations

---------- 4 Wheel
---------- GP
----------Special
---------- Hi-Cl

diesel engine

SPECIFICATIONS

General

Type ---------- 4 Cylinder, 4 Stroke Cycle, Valve-in-Head.
Firing Order ---------- 1-3-4-2
Bore (730 Series) ---------- 4-1/8 Inches
(830 Series) ---------- 4-3/8 Inches
Stroke ---------- 5 Inches
Piston Displacement (730 Series) ---------- 267 Cubic Inches
(830 Series) ---------- 301 Cubic Inches
Compression Ratio ---------- 15 to 1
Cylinder Sleeves ---------- Removable Wet Type
No Load Governed Speed (all except 730 std.clutch) ---- 2060 RPM
No Load Governed Speed (730 std.clutch) ---------- 1860 RPM
Rated Engine Speed (all except 730 std.clutch) -------- 1900 RPM
Rated Engine Speed (730 std.clutch) ---------- 1700 RPM
Engine Idling Speed ---------- 600 RPM
*Valve Tappet Clearance (Intake and Exhaust) --- .020 Inch (Hot)
Exhaust Valve Rotators (If So Equipped) ------- Positive Type
Diesel Fuel ---------- Number 2 Diesel Fuel

*Hot Settings Are Made At Low Idle After The Engine Has Operated At Thermostat Controlled Temperature For At Least Fifteen Minutes.

Piston and Connecting Rods

Rings Per Piston ---------- 4
Number of Compression Rings ---------- 3
Number of Oil Rings ---------- 1
Type Pins ---------- Full Floating Type
Type Bearing ---------- Replaceable Precision, Steel Back, Copper-Lead Alloy Liners.

Main Bearings

Number of Bearings ---------- 5
Type Bearings ---------- Replaceable Precision Steel Back, Copper-Lead Alloy Liners.

Engine Lubricating System

Oil Pressure ------- 40 to 50 Pounds with Engine Warm and Operating at Rated Engine Speed.
Type System ---------- Forced Circulation
Oil Pump ---------- Gear Type
Oil Filter ---------- Full Flow with Replaceable Element

Fuel Injection System

Fuel Injection Pump ---------- Robert Bosch, Type PES (Multiple Plunger).
Pump Timing (730 Series) ---------- 33 Degrees Before Top Dead Center (Port Closing).
Pump Timing (830 Series) ---------- 31 Degrees Before Top Dead Center (Port Closing).
Fuel Injectors ---------- Robert Bosch, Throttling Pintle Type; (Opening Pressure 2000 Pounds Per Square Inch.
Fuel Transfer Pump ---------- Plunger Type, Integral Part of Injection Pump.
Governor ---------- Variable Speed, Fly-Weight Centrifugal Type; Integral Part of Injection Pump.

Fuel Filters

1st Stage Fuel Filter ---------- Replaceable Element Type

2nd Stage Fuel Filter ---------- Replaceable Element Type

Final (3rd Stage) Fuel Filter ------- Replaceable "Sealed Type"

Fuel Tank Water Trap and Drain --- Located in Base of Fuel Tank

Fuel Gauges and Fuel Tank

Fuel Tank Capacity (all except Grove) ---------- 31 U. S. Gallons
(Grove) ---------- 23 U. S. Gallons

Fuel Tank Level Gauge --------- Located on Instrument Panel Indicates Condition of Fuel Filters.

Fuel Pressure Warning Light ---- Located on Instrument Panel Indicates Condition of Fuel Filters.

spark ignition engines

SPECIFICATIONS

General

Type ---------- 4 Cylinder, 4 Stroke Cycle, Valve-in-Head.
Firing Order ---------- 1-3-4-2
Bore (730 Series) ---------- 4 Inches
(830 Series) ---------- 4-1/4 Inches
Stroke ---------- 5 Inches
Compression Ratio (730 Series Gasoline) ---------- 7.4 to 1
(730 Series LP Gas) ---------- 8.5 to 1
(830 Series Gasoline) ---------- 7.4 to 1
(830 Series LP Gas) ---------- 8.4 to 1
Piston Displacement (730 Series) ---------- 251 Cubic Inches
(830 Series) ---------- 284 Cubic Inches
Governed Speed
No Load Governed Speed (all except 730 Std. Clutch) -- 2060 RPM
No Load Governed Speed (730 Std. Clutch) --------- 1860 RPM
Rated Engine Speed (all except 730 Std. Clutch) ---- 1900 RPM
Rated Engine Speed (730 Std.Clutch) ---------- 1700 RPM
Engine Idling Speed ---------- 600 RPM
*Valve Tappet Clearance (Intake) ---------- .010 Inches (Hot)
(Exhaust) ---------- .020 Inches (Hot)
Exhaust Valve Rotators (If So Equipped) ------- Positive Type

*Hot Settings Are Made At Low Idle After The Engine Has Operated At Thermostat Controlled Temperature For At Least Fifteen Minutes.

Piston and Connecting Rods

Rings Per Piston ---------- 4
Number of Compression Rings ---------- 3
Number of Oil Rings ---------- 1
Type Pin ---------- Full Floating Type
Type Bearings ---------- Replaceable, Precision Steel Back, Copper Lead Alloy Liners.

Main Bearings

Number of Bearings ---------- 5
Type Bearings ---------- Replaceable, Precision Steel Back, Copper Lead Alloy Liners.

Engine Lubricating System

Oil Pressure ---------- 40 to 50 Pounds With Engine Warm and Operating at Full Governed RPM.
Type System ---------- Forced Circulation
Oil Pump ---------- Gear Type
Oil Filter ---------- Full Flow, Replaceable Element

Gasoline Fuel System

Fuel Tank Capacity (all except Grove) ---------- 31 U. S. Gallons
Fuel Tank Capacity (Grove) ---------- 23 U. S. Gallons
Carburetor ---------- 1-1/4 Inch SAE Flange
Fuel Filter --------- Brass Screen Located Under Fuel Tank.
Fuel Gauge -------- Electric - Located on Instrument Panel.

LP Gas Fuel System

Fuel Tank Capacity (Grove) ----- 38 U.S. Gallons (80% Full)
Fuel Tank Capacity (all Eccept Grove) --- 35 U.S. Gallons (80% Full)
Carburetor ---------- Ensign 1-1/4 Inch SAE Flange
Fuel Filter ---------- Replaceable Element
Fuel Gauge ---------- Visual-Located on LP Tank

Distributor Ignition

Contact Point Gap ---------- .020 Inches
Dwell Angle ---------- 70°
Spark Plugs (Gasoline) ---------- Prestolite 18 8
(LP Gas) ---------- Prestolite 18 3
Plug Gap --------- LP Gas .020 Inches ----- Gasoline .025 Inches
Thread ---------- 18MM
Shank Length ---------- 1/2 Inch

Static Timing

	CASE-O-MATIC		STANDARD CLUTCH	
	Gasoline	LP Gas	Gasoline	LP Gas
730	5° ATDC	5° ATDC	2° ATDC	5° ATDC
830	2° ATDC	TDC	2° ATDC	TDC

Running Timing

	CASE-O-MATIC		STANDARD CLUTCH	
	Gasoline	LP Gas	Gasoline	LP Gas
730	27° BTDC	27° BTDC	27° BTDC	24° BTDC
830	30° BTDC	32° BTDC	30° BTDC	32° BTDC

Engine Running at Rated Engine Speed

general specifications

Cooling System

Capacity ---------- 30 U. S. Quarts
Type of System --- Pressurized, Thermostat Controlled By-Pass Type: Forced Circulation,(Impeller Type Pump).
Radiator ---------- Heavy Duty Fin and Tube Type
Thermostat -------- Starts To Open at Approximately 180° F. Fully Open at 200°F.
Pressure Cap Required ---------- 7 PSI

When using a proper operating 7 PSI pressure cap, the engine temperature can safely rise to 230°F.

Electrical System

Type of System ---------- 12 Volt Negative Ground
Batteries - Diesel (All Except Grove) Two 6 volt Batteries Connected in Series. (Group 4HA, 150R) 150 Amp Hours at 20 Hour Rate
Diesel (Grove) One 12 volt (Group 14H-90) 90 amp hours at 20 Hour Rate.
Spark Ignition-One 12 volt (Group 12H-70) 70 Amp Hours at 20 Hour Rate.
Generator ---------- 12 Volt
Voltage Regulator ---------- Automatic Type, on Generator
Starting Motor ---------- 12 Volt
Head Lights ---------- 12 Volt Sealed Beam
Cultivator Lights ---------- 12 Volt Sealed Unit
Amber Warning Lamp ---------- 12 Volt, Flasher Type
Rear Warning Light ------ 12 Volt Sealed Beam Combination Tail and Flood Lamp
Electrical Outlet Socket --------- 12 Volt for Auxiliary Light
Circuit Breaker ---- Protects the Electrical System from Overload.

Brakes

Type ---------- Heavy Duty, Double Disc, Self-Energizing Differential Brakes.
Brake Pedals ---Can Be Locked Together (Except Grove) for Road Travel or use Individually for Steering Assistance.

Case-O-Matic Drive

Main Powr Clutch ---- Multiple Disc, Hydraulically Actuated, Engages Engine and Torque Converter with Transmission.
Direct Drive Powr-Clutch --- Single Disc, Hydraulically Actuated Engages Engine Directly with Main Powr Clutch and Transmission,By-Passing Torque Converter.
Torque Converter ---------- 13 Inch, Single Stage

Standard Drive Clutches

Foot Operated ---------- Spring Loaded, 12 Inch Single Disc Type Sealed, Pre-packed Throw-out Bearing (Throw-out Collar Has Pressure Fitting).

Hand Operated ---------- Spring Loaded 12 Inch Single Disc Type, Sealed Prepacked Throw-out Bearing. (Throw-out Collar Has Pressure Fitting).

Transmission

Transmission Case ------- Heavy Cast Iron One Piece Unit Construction Containing All Gears, Shafts, Bearings, Differential and Final Drive.

Transmission ---------- 8 Forward Work Ranges and 2 Reverse

Final Drive ---------- Heavy Duty Gear Drive

Power Take-Off

Rotation ---------- Clockwise

Spline Size ------- 540 RPM ---------- 6 Splines ----- 1-3/8 Dia.
1000 RPM ----------21 Splines --- 1-3/8 Dia.

Engine Speed 1700 RPM ---------- 545 or 1005 RPM Shaft Speed.

Belt Pulley

Method of Engagement ---------- PTO Control Lever

Pulley Diameter ---------- 10.5 Inches

Pulley Face Width ---------- 7.25 Inches

Ratio Engine RPM to Belt Pulley RPM

(540 PTO) ---------- 1.85 to 1

(1000 PTO) ---------- 1.56 to 1

1 RPM of Belt Pulley --------- 2.75 Feet Per Minute Belt Travel

Drawbars

Standard ---------- Full Swinging Roller Mounted. Will Accommodate a 1 Inch Dia. Pin.

Yoke Type ---- Full Swinging, Roller Mounted. Equipped with a 1.125 Inch. Dia. Pin

Hydraulic System

Pump ---------- Large Volume, Spur Gear, Contnuous Running.

Type Valve ---------- Dual Valve-Individual Hand Lever Control.

Portable Cylinder Coupling -- Case Quick Detachable Breakaway Type.

Pump Capacity at 1500 Engine RPM ---------- 12 GPM

Pump Capacity at 1700 Engine RPM (Std. Clutch) ---- 13.6 GPM

Pump Capacity at 1900 Engine RPM (Case-O-Matic) -- 15.3 GPM

Relief Valve Pressure ---------- 1350 to 1550 PSI

Portable Cylinders ---------- Available

Draft-O-Matic System

Type of Sensing ---------- Lower Link

Type of Control ---------- Quadrant Lever

Type of Valve ---------- 3 Position Raise, Hold, Lower With Manual Lockout and Speed Control.

Type Draft Arms -------- Swinging With Manual Float Adjustment.

Type Hitch ---------- Three Point Category II

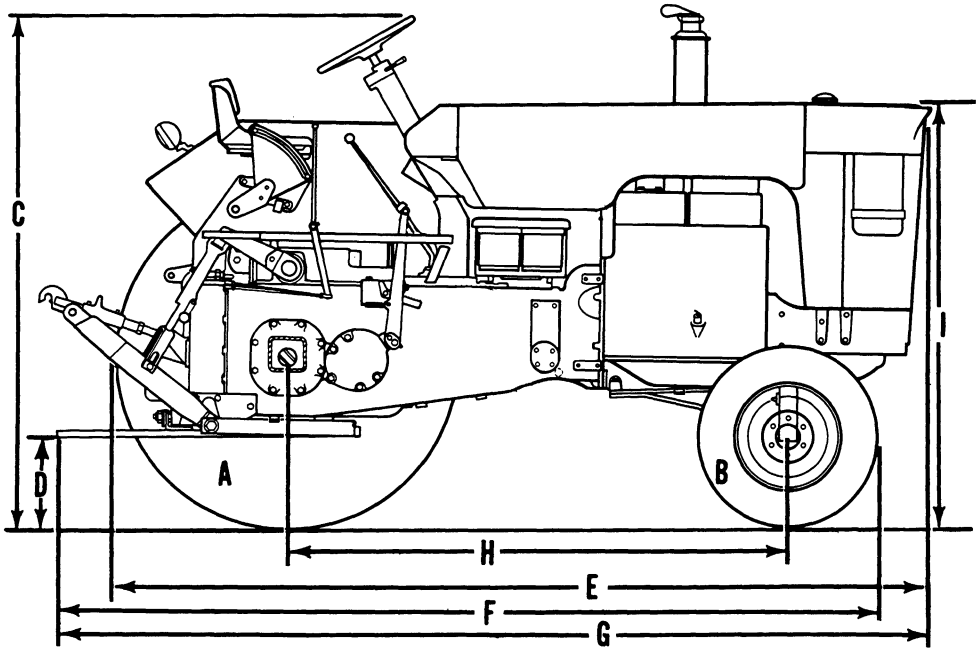
Power Steering

Pump Type ----------Belt Driven,Gear Type or Roller Type.

Reservoir Capacity (Gas and Diesel) ---------- 3 U. S. Pints
(LP Gas) ---------- 1.5 U. S. Pints

Relief Valve Pressure ---------- 950 to 1100 PSI

OVERALL MEASUREMENTS



MODEL	A	B	C	D	E	F	G	H	I
Standard 4 Wheel	14.9-30	6.00-16	81	12		135	143	83	67
General Purpose	15.5-38	7.50-16	84	15			156	102	73
High Cl.	14.9-38	7.50-20	99	33	140			93	86
Grove	16.9-26	7.50-16	62*	11		131		77	58
Western Special	23.1-26	6.00-16	81	14		135	144	83	69

A and B Tire Sizes C thru I Dimension in Inches

*Orchard Model add 3 inches for height over cowl.

APPROXIMATE WEIGHTS

All Except Grove Model	7000 Pounds
Grove Model	6000 Pounds

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