

# Spark Plugs for N-Series Tractors

by Tim Daley (MI)

Here's a quick identifier for which spark plug to use in your N-Series Tractor. The original Ford Operator's Manuals all call for the Champion 14mm H10 spark plug, which is still made and works fine. However, many N-owners prefer the hotter burning Champion H12 plug or the AUTOLITE 437 plug nowadays and they both also work fine. The Champion H12 plug is also listed as part number 512. There are probably a few other plugs out there that'll work, but these seem to all work without flaw. The Ford Spark Plug wrenches pictured show the very early 9N wrench (used in first month of tractor production) 81A-17017 with a Champion H10 plug; the replacement wrench, 01A-17017 with an AutoLite 437 plug; and the next generation replacement wrench, a Ford 01A-17017-B tool with a Champion H12 plug. I'd like to offer my advice when doing a tune-up and replacing your plugs. Get your air compressor fired up and blow off the top of the (cold) engine head where the plugs screw in to be sure all debris is cleared out before you unscrew the plugs. You don't need excess dirt and crud falling inside if you can help it. 14mm refers to the thread size and pitch of the plug. It is a METRIC thread so do not try a 1/2-20 tap or anything else other than a 14 millimeter by 1.25 (pitch) if you need to chase the threads in the head.

Your Choice -



Original Ford Tractor Spark Plug Wrenches Shown -



**c. Engine.**

Type .....	4-cylinder "L" head
Rated speeds .....	1500 and 2000 R.P.M.
Idle speed .....	400 R.P.M.
Cylinder bore .....	3.188 in.
Stroke .....	3.75 in.
Piston displacement .....	119.7 cu. in.
Torque .....	84 lbs. ft. at 1500 R.P.M.
Compression ratio .....	6.0 to 1
Sleeves .....	Dry type
Piston .....	Cast steel
Rings:	
Compression .....	2
Oil .....	1
Piston pin .....	Full floating
Rod bearings .....	Replaceable shell-type
Main bearings .....	Replaceable shell-type
Crankshaft .....	Cast steel, static and dynamic balanced
Compression pressure at cranking speed (sea level) .....	90 lbs. minimum

**d. Ignition System.**

Type .....	Battery
Distributor:	
Firing order .....	1-2-4-3
Drive .....	Directly by camshaft
Automatic spark advance .....	Centrifugal governor
Initial timing (degrees of crankshaft) .....	Top dead center
Maximum advance (degrees of crankshaft) .....	24°
Distributor breaker cam .....	4 lobe
Breaker contacts .....	1 set
Breaker contact spacing .....	0.015 in.
Spark plugs:	
Type .....	Marked H-10
Size .....	14 mm
Gap .....	0.025 to 0.028 in.

**e. Carburetor.**

Type .....	Single up-draft
Idle fuel adjustment .....	1 screw
Main fuel jet .....	1 screw
Idle speed .....	1 screw

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**12. What is the correct spark plug?**

14mm. H10 Champion.

**13. Does the ignition system have an automatic spark advance?**

Yes.

It is controlled by a small governor on the inside of the distributor base.

**14. Is there a manual adjustment to advance and retard the spark?**

Yes.

This adjustment is made by loosening the screw at the left hand side of the distributor base and moving this screw up to retard the spark and down to advance it.

**15. What is the proper procedure for cleaning carburetor?**

- (1) Remove carburetor from the manifold.
- (2) Remove the fuel needle valve. (The fuel needle valve is set at an angle and should be removed first to prevent damage.)
- (3) Disassemble carburetor bowl.
- (4) Remove the float, float valve, gasket, venturi tube, drain plug and elbow strainer.
- (5) After carburetor is disassembled use compressed air to blow out each individual part.

*CAUTION*—Never attempt to blow out a carburetor by connecting an air line to the fuel inlet.

**16. How many turns should the fuel needle be opened for average conditions?**

One full turn.

Heavy work such as grinding, threshing or other similar work usually requires an additional quarter turn.

**17. What will be the result of air leaks occurring between the air filter and carburetor?**

Dirt will be taken into the motor and rapid wear will result.

It is very important that a good hose connection be maintained between the pipe running from the air cleaner and the carburetor.

Model NAA	General Description and Specifications	Section 1
<b>C. ENGINE (Con't)</b>		
Rated speeds	1500 R. P. M. with P. T. O. driven implements so as to obtain 545 R. P. M. at P. T. O. 1750 R. P. M. without P. T. O. driven implements	
Idle speed	450-475 R. P. M.	
Cylinder bore	3.44 in.	
Stroke	3.60 in.	
Piston displacement	134 cu. in.	
Torque	110 ft. lbs. at 1400 R. P. M. - Engine without accessories	
Compression ratio	6.6 to 1	
Sleeves	Centrifugally cast alloy iron, dry type	
Piston	Autothermic, cam ground, aluminum alloy	
Rings:		
Compression	2 - cast iron - top, chrome plated	
Oil	1 - cast iron	
Piston pins	Floating	
Rod Bearings	Replaceable steel backed inserts	
Main Bearings	Replaceable steel backed inserts	
Crankshaft	Precision moulded alloy iron, statically & dynamically balanced.	
Compression pressure at cranking speed	(sea level) 120-125 P. S. I. at cranking speed (Minimum)	
<b>D. IGNITION SYSTEM</b>		
Type	Battery	
Distributor:		
Firing order	1-2-4-3	
Drive	Helical gear off camshaft	
Automatic spark advance	Centrifugal	
Initial timing (degrees of crankshaft)	8° BTDC at 475 R. P. M.	
Maximum advance (degrees of crankshaft)	24°	
Distributor breaker cam	4 lobe	
Breaker contacts	1 set	
Breaker contact spacings	.024 to .026	
Spark Plugs:		
Type	H-10	



*Best internet source of information and help for old Ford tractors.*

[www.ntractorclub.com](http://www.ntractorclub.com)