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IH: Carburetor, Intake Manifold & Exhaust - Sub-01E

Tillotson Carb Identification

See also in the Sportsterpedia:

- [Tillotson Carb Basic Information](#)
- [Rebuilding the Tillotson Carb](#)
- [Tillotson Carb Functions, Adjustments, Tuning](#)

Tillotson Carbs by Serial/Model Number

Tillotson HD (1966-1971)	
Model HD-1A	Pre-1966 XLCH
Model HD-1B	1966-later XLCH
27162-66B ¹⁾ HD - 1BC HD - 1C	Late '68 Sportsters (new check ball valve added to the accel pump passage) ²⁾
27155-66RA HD5A	900 (XLR) (27823-66R)
27155-70R HD5A	750 (XR) (27823-66R)

Early 66 (1966 model), HD1A: diaphragm lever and fuel valve without fork. Fuel valve brought down by gravity only.³⁾

Oct 1966 sheet (1967 model), HD1B: fork on diaphragm lever for positive opening and closing of fuel valve.

Sorted leaning out of mixture at high revs due to earlier design and vibrations (from Aug 10th, engine 66X***(*)10611)

Jan 1968 sheet, HD1BC or HD1C: added little ball valves in the plastic cover for accelerator pump circuit to improve action.

It does not rely anymore on just the little rubber valve flaps on the gasket.

Improved accelerator pump delivery. Also added economizer ball in main jet circuit for improved mileage. The later version was HD1D.

Most Tillies out there, even if stamped with earlier numbers, possibly would have been modded to later

specs if properly serviced at the dealers at the time.

These carbs will start the engine easier if they're flooded:

Attach a small nylon cable tie underneath carb from one of the cover screws.

You can then poke (tickle) the diaphragm up through the vent hole in the middle of the plastic cover to flood it. Or adapt a tickler from a GB Amal carb.



4)

Tillotson HD1A

The Linkert cable bracket is correct for 66 as is the no drill point phenolic insulator (one year only). ⁵⁾

67 was 1st year for the over the top bracket and the drill point. The pn did not change for the drill point (all blocks made from 67 up are drilled).

Full choke closed detent in 66 shafts are not as 'positive' as 67-71. Also the "wraparound" cable bracket is 67-71.

As far as the phenolic block, 66 no-drill point, E67ch & 67-71H, 70-71 CH-drill point. L67-69CH block gets longer bottom stud for plug wire router.



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Tillotson HD1C



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This one is marked HD1C D:
Notice the 'D' wasn't stamped at the same time as the rest. Most likely a 'C' upgraded to a 'D'. The date code is E69.



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Tillotson HD1D

HD1D from a 1971 XLCH:



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Tillotson HD5A

HD5A's are racing carbs used on KR, XR, XLR and other race bikes. It has no accelerator pump and a metal diaphragm bottom cover. ²⁸⁾

Click on any pic below to enlarge: Photos courtesy of Robert Evans.

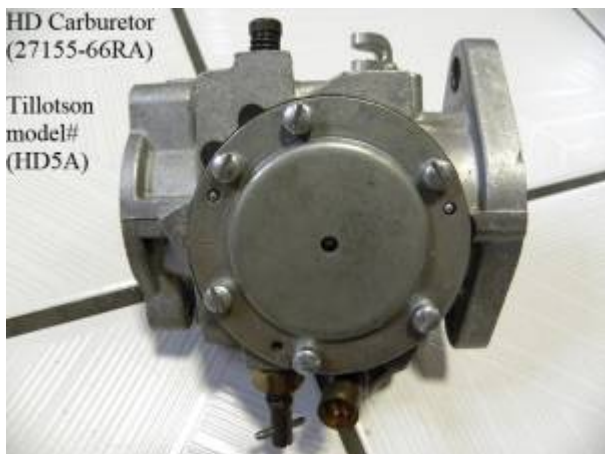


HD Carburetor (27155-66RA)
Tillotson model# (HD5A)

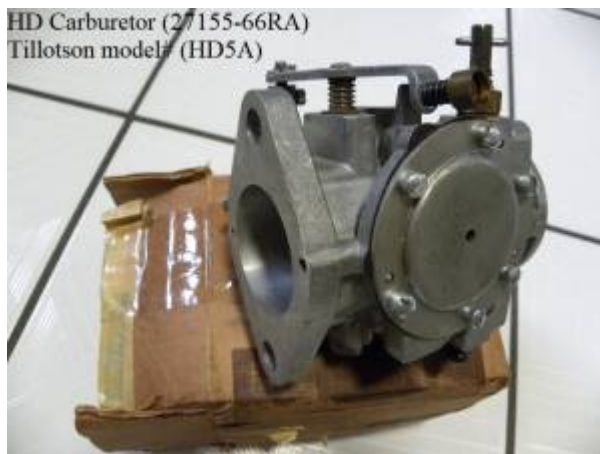


HD Carburetor
(27155-66RA)

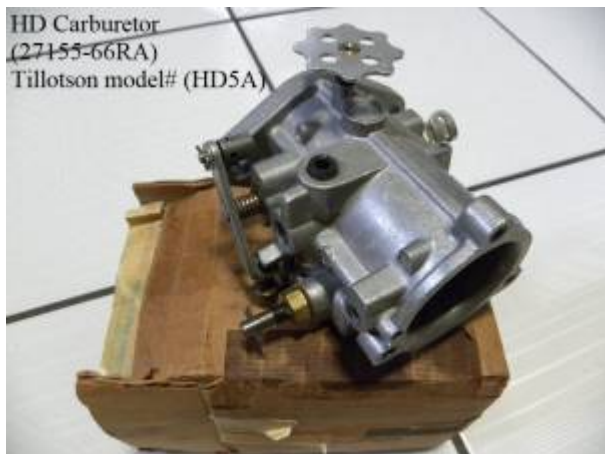
Tillotson
model#
(HD5A)

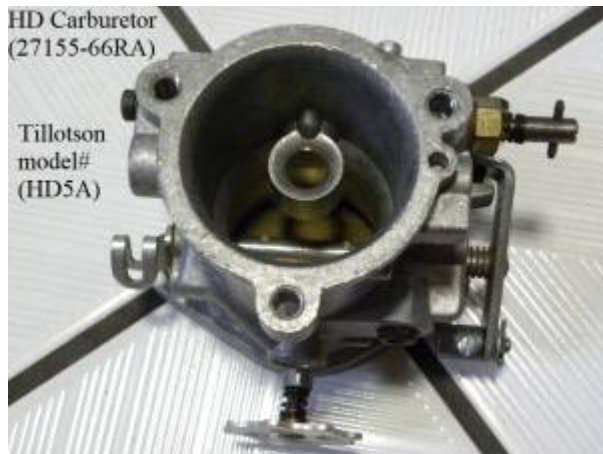
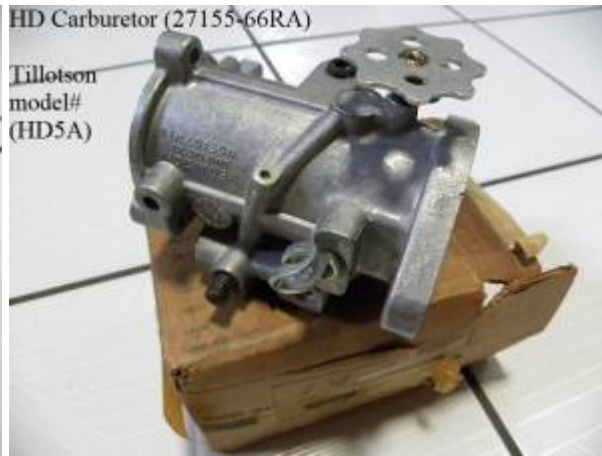
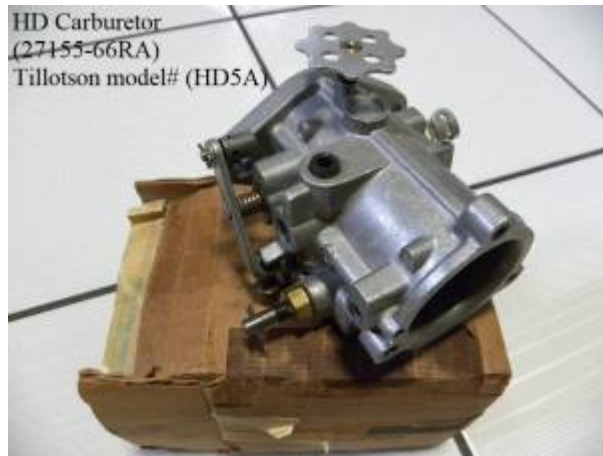


HD Carburetor (27155-66RA)
Tillotson model# (HD5A)



HD Carburetor
(27155-66RA)
Tillotson model# (HD5A)





Andrews Super 45

The Andrews Super 45 is basically a Tillotson bored out to 45mm with a 45mm butterfly in it. ²⁹⁾

AP-45-2:



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HD137B 548 ("C" version):



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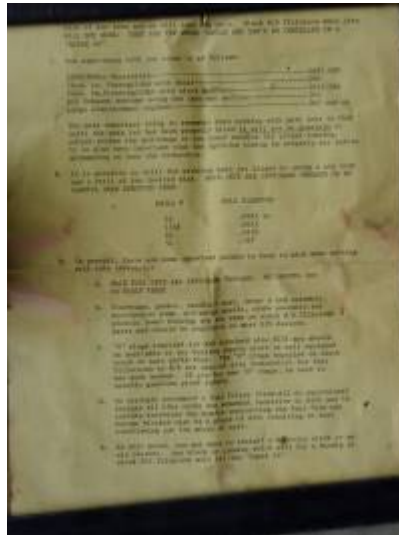
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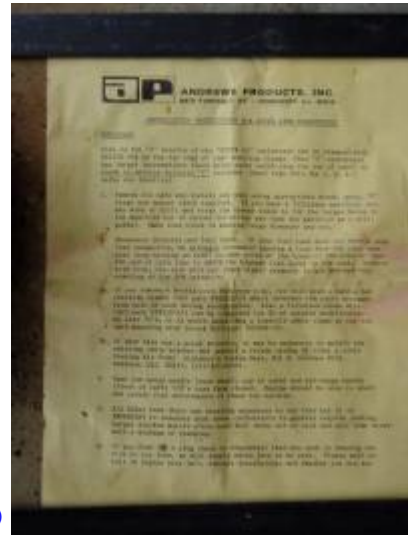
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Throttle Cable



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Tillotson HD Parts List

1966 Tillotson HD Parts List for Sportsters	
27162-66	CARBURETOR (complete)
711	WELCH PLUG, body (2)
712	WELCH PLUG, choke lever
713	WELCH PLUG, check ball
993W	SCREW, throttle wire, No. 6-32 x 1/4 fil. hd.
2540	SCREW, pump lever, No. 4-36 x 1/4 fil. lid.
7005	LOCKWASHER, pump lever screw, No. 4
27135-66	REPAIR PARTS KIT
27138-66	GASKET SET
27352-66	SCREW, intermediate speed adj.
27353-66	PACKING RING, intermediate speed adj. screw
27354-66	WASHER, intermediate speed adj. screw
27406-26	BALL, choke shaft friction spring
27407-66	CHECK BALL
2594-66	INLET FITTING, carburetor (2)
27595-66	PIN, inlet valve lever
27596-66	RETAINING SCREW, inlet valve lever pin
27597-66	INLET NEEDLE, SEAT AND GASKET
27598-66	GASKET, inlet seat
27599-66	SPRING, inlet valve lever
27615-66	MAIN JET — .057 in.
27658-66	CHECK VALVE ASSEMBLY
27661-66	SEAL, choke shaft
27668-66	CHOKE SHUTTER RELIEF VALVE
27669-66	SPRING, choke relief valve
27671-66	FRICTION SPRING, choke shaft
27673-66	CHOKE SHUTTER

27688-66	SCREW, intermediate speed adjusting
27689-61	SPRING, idle and intermediate adj. screws (2)
27691-59	SPRING, throttle lever stop
27704-61	PLUG SCREW, main jet
27706-66	SPRING, throttle shaft
27707-66	SEAL, throttle shaft
27708-66	THROTTLE SHAFT AND LEVER
27712-66	SEAL WASHER, throttle shaft
27714-66	THROTTLE DISC
27717-66	SCREW, throttle lever stop
27718-66	CHOKE SHAFT AND LEVER
27720-61	SCREW WITH LOCKWASHER, choke & throttle shutters (4)
27740-63	LEVER, inlet valve
27746-66	INLET SCREEN (2)
27747-66	CUP, idle adj. screw
27759-66	LEVER, accelerating pump
27760-66	ACCELERATING PUMP
27804-66	DIAPHRAGM COVER
27806-66	GASKET, diaphragm cover
27812-66	PLUG SCREW, diaphragm cover
27814-66	RETAINING SCREW, diaphragm cover (6)
27816-66	DIAPHRAGM

Links,Parts and Services for Tillotson Carbs

Original P/N for a Sporty Tillotson repair parts kit 27147-66 ⁴³⁾

Original P/N for a Big Twin Tillotson repai parts kit 27137-66

- Parts list for Tillotson HD carbs:
 - [HD Series 1 Parts List \(PDF\)](#)
 - [HD Series 2 Parts List \(PDF\)](#)
- Service manual for Tillotson carbs:
 - [Tillotson HD Series Carburetor \(PDF\)](#)
- Servicing for Tillotson carbs:
 - [Tillotson Company.](#)
 - [EC Carburetors.](#)
 - [The Carburetor Shop.](#)



Tillotson Carburetor repair/ refresh kit⁴⁴⁾

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