

Technical Information

06.2006

Cut-off machines STIHL TS 700, TS 800

– Series 4224

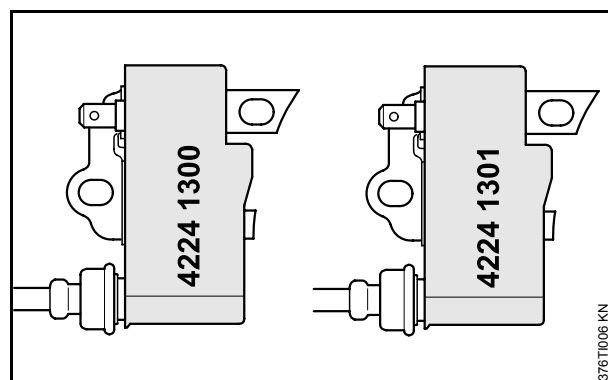
Contents

1. Ignition system (ignition module, flywheel)
2. Tank housing (tank vent, hose, routing / switch)
3. Summary
4. Service note (adjustment of air shutter linkage)

1. Ignition system (ignition module, flywheel)

The **ignition system with higher spark energy** that will be installed as standard in the TS 800 will also be used in the TS 700 in the future.

1.1 Ignition module



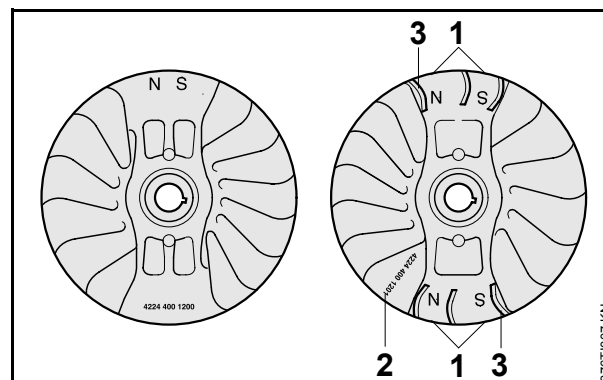
Ignition module

Left: Previous version 4224 400 1300

Right: New version 4224 400 1301

The new ignition module can easily be differentiated from the previous version through the embossed identification (see diagram).

1.2 Flywheel



Flywheel

Left: Previous version 4224 400 1200

Right: New version 4224 400 1201

The new flywheel 4224 400 1201 has a second magnet group and can easily be identified through the following features:

- Two opposing pole pairs (1)
- Integrally moulded part number (2)
- Additional fan blades (3)

1.3 Spare parts / service notes

The new ignition system will not be introduced in all versions of the TS 700 at the same time. Great care must therefore be taken to establish which ignition system has been installed when carrying out repairs.

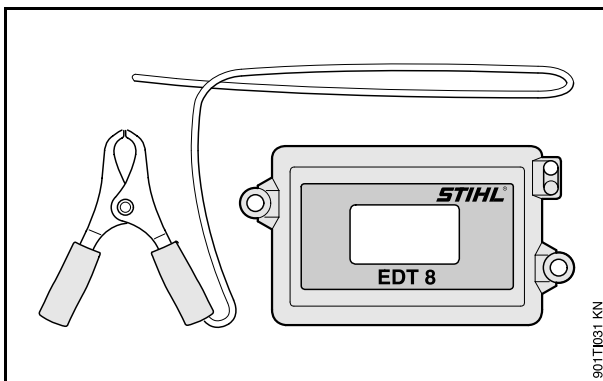
To ensure correct operation of the ignition system, the individual components (flywheel and ignition module) of the previous and new versions may only be installed in correct combination:

Flywheel 4224 400 1200 combined **with** ignition module 4224 400 1300

or

Flywheel 4224 400 1201 combined **with** ignition module 4224 400 1301

Tachometer (new special tool)



Only the new tachometers **STIHL EDT 8** (5910 850 1009) or **STIHL EDT 7** (5910 850 1008) (see TI 10.2006) can be used to measure the engine speed in the TS 700 with new ignition system and in all TS 800 models.

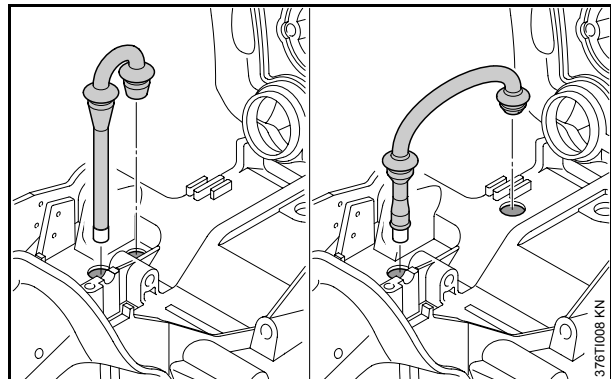
The previous tachometers EDT 5 and EDT 6 cannot be used with these machines. The additional pulses delivered by the second magnet pole pair would lead to measurement errors.

The pulses for speed measurement should be registered via a test lead wire. For this purpose, the terminal of the test lead should be connected to any point on the ignition lead or spark plug boot.

2. Tank housing (tank vent, hose, routing / switch)

The previous tank housing 4224 350 0804 has been replaced by version 4224 350 0809 in conjunction with the individual changes described below.

2.1 Tank vent



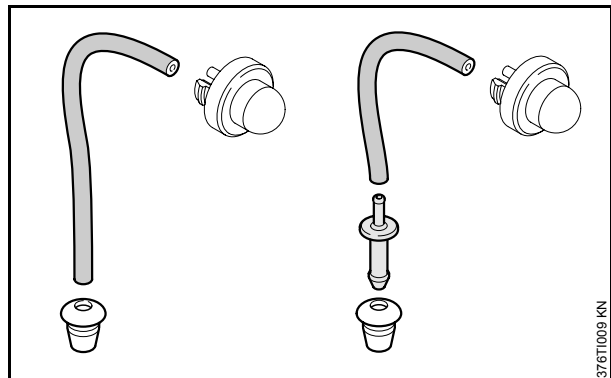
Tank vent

Left: Previous version 4224 350 5800

Right: New version 4224 350 5801

The tank vent (moulded hose connecting the fuel tank and expansion tank) has been modified. The connection for the tank vent on top of the new tank housing (near the expansion tank) has been moved nearer to the front.

2.2 Hose



Hose 4128 358 7600 (155 mm long) which was previously connected directly to the fuel tank via a grommet is no longer used. It has been replaced by a 128 mm long hose. The new hose is connected to the new connector 0000 988 5206 which is inserted in the grommet.

The new hose is available in one meter lengths for replacement (0000 930 2802) and must be cut to 128 mm (5 in.) when required.

2.3 Routing / switch

The guide ribs integrally moulded onto the tank housing to secure the short-circuit and ground wires have been spaced more closely. At the same time, the short-circuit and ground wires (on switch 4224 430 0500) are no longer encased in a hose, but now take the form of a light plastic-sheathed cable. The switch now has the part number 4224 430 0501.

2.4 Service notes

The tank vent 4224 350 5800 and switch 4224 430 0500 cannot be replaced and remain available for repairs to the previous tank housing.

The previous and new tank vents are of different colors. The previous version is made of black material, the new version of green material.

The hose (128 mm-5 in.) **with connector** 0000 988 5206 must be used as replacement for the hose 4128 358 7600.

The previous and new switches differ with regard to the color of the short-circuit and ground wires: in the previous switch, these wires were blue / black, in the new switch they are brown / blue.

3. Summary

Item	Part name	Previous	New	Remarks
1	Ignition module	4224 400 1300	4224 400 1301	1)
2	Flywheel	4224 400 1200	4224 400 1201	1)
3	Tank housing; including Items 4 to 9:	4224 350 0804	4224 350 0809	2)
4	Tank vent	4224 350 5800	4224 350 5801	1)
5	Hose (2.2 x 5.4 x 155 mm)	4128 358 7600	---	3)
6	Hose (2.2 x 5.4 x 128 mm)	---	- * -	4)
7	Hose (2.2 x 5.4 mm x 1 m)	---	0000 930 2802	
8	Connector	---	0000 988 5206	
9	Switch	4224 430 0500	4224 430 0501	1)
Special tools				
10	Tachometer EDT 8	---	5910 850 1009	
11	Tachometer EDT 7	---	5910 850 1008	
Remaining parts as before				

Modification to be introduced continuously

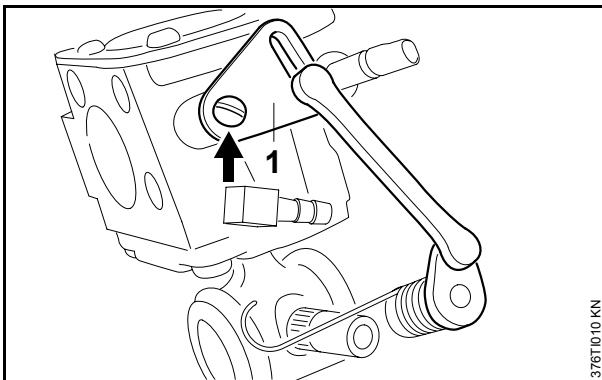
Remarks

- 1) Previous version of part remains available for older machines.
- 2) Previous version of part is no longer available from factory.
- 3) Part remains available for other model series.
- 4) Part is not available individually (must be cut to length from one meter hose – Item 7).

4. Service note (adjustment of air shutter linkage)

To ensure optimum combustion, the air shutter must open with a delay in relation to the throttle shutter. If the air shutter opens too soon, the mixture will be too lean and the engine will overheat and/or it will be inadequately lubricated. For this reason, the air shutter linkage (between throttle shutter and air shutter) must be carefully and precisely set. The adjustment procedure is therefore described again here (in addition to the description in the service manual).

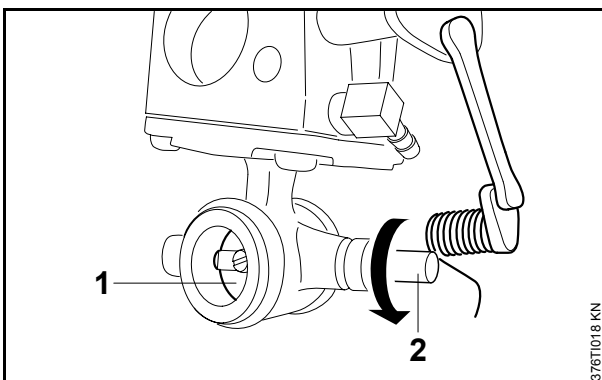
The carburetor has been removed for this adjustment.



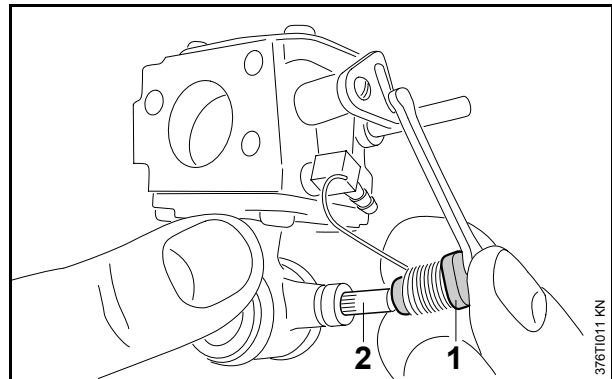
- Slide the upper lever (1) onto the throttle shutter shaft.

Note: When fitting the lever, the flat sides in the hole of the lever must be lined up with those on the throttle shaft.

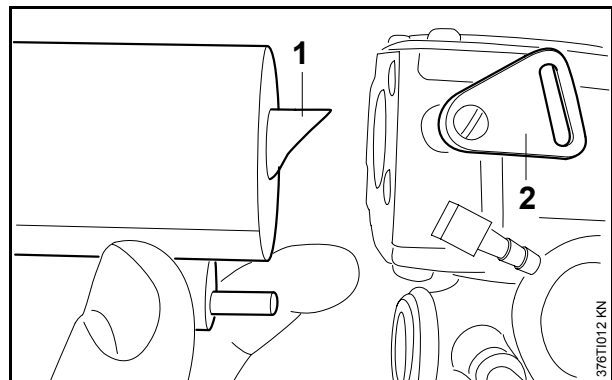
- Insert and tighten down the screw (arrow) of the lever.



- Turn the air shutter shaft (2) counterclockwise until the air shutter (1) is closed.

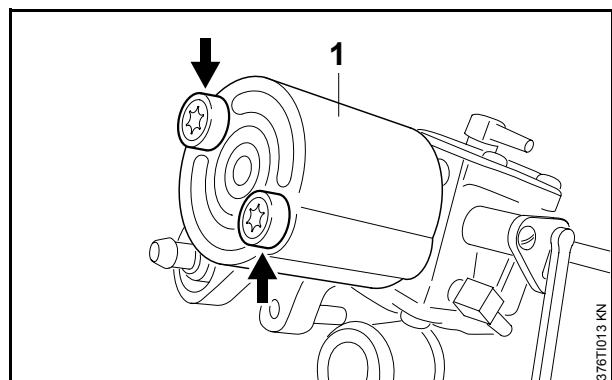


- Slide the lower lever (1) onto the air shutter shaft (2) until the start of the knurling, but not onto the knurling.

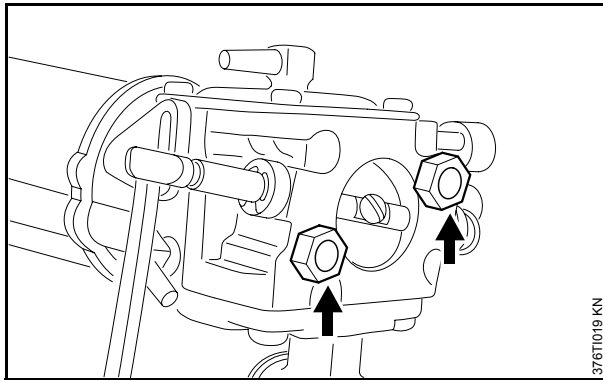


- Move test flange 4224 890 1200 up against the carburetor so that the shoulder (1) protrudes into the throttle shutter hole.

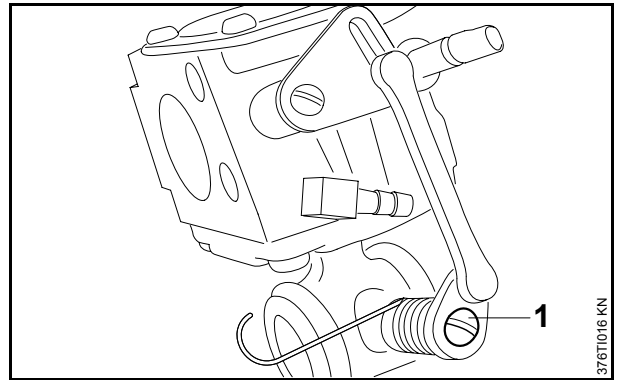
The top of the throttle shutter is pressed slightly inwards (opened) by the shoulder on the test flange and the lever (2) moves into a horizontal position.



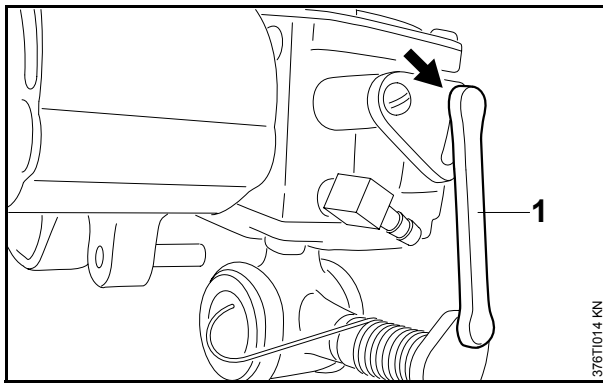
- Fit two screws M5x80 (arrows) through the test flange (1) and carburetor.



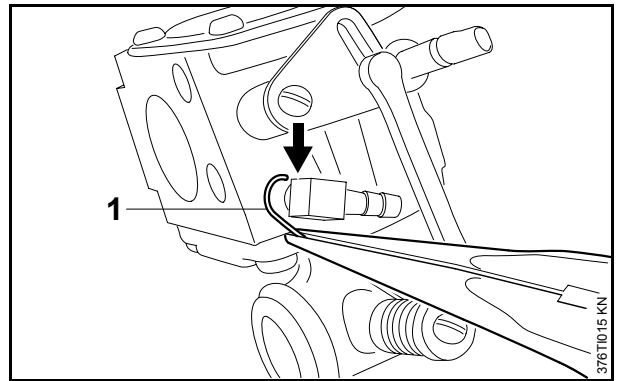
- Fit nuts (arrows) and screw them tight until the test flange rests securely against the carburetor.



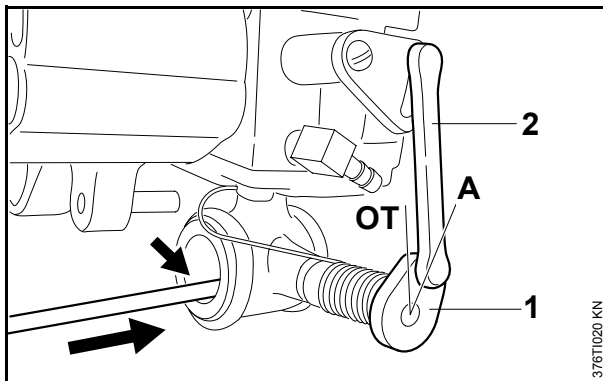
- Insert screw (1) and tighten it down. The air shutter lever is now secured in position.



- Turn the bottom lever counterclockwise until the linkage (1) almost rests against the upper end of the oblong hole (arrow) in the lever.

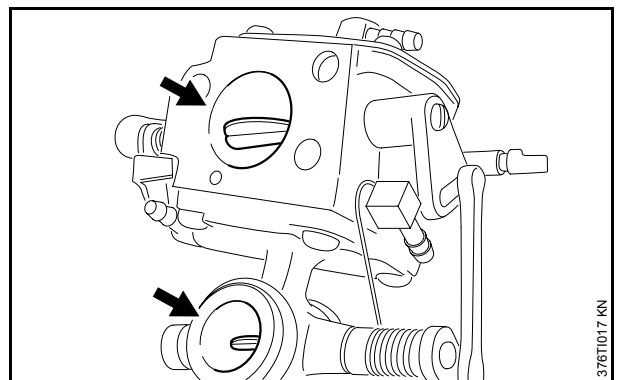


- Tension the leg spring (1) roughly one turn counterclockwise and hook it into the elbow connector (arrow).



The lever (1) must **not** be in the top dead center position = TDC (OT).

- Close the air shutter with a blunt tool (arrow) and hold it shut.
- Align lever (1) in position (A), keeping the linkage (2) vertical.
- Press lever (1) over the knurling on the air shutter shaft.



Function test

Both the throttle shutter (arrow) and the air shutter (arrow) must be horizontal in full throttle position.

The air shutter must open with a delay when the throttle shutter opens (when the throttle shutter is approx. 1/3 open).

Last Technical Information on the STIHL TS 700, TS 800: 52.2004 (TS 700), 01.2006 (TS 800)

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Technical Documentation
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