

#29034 BACKPLATE, non pull start for the #2900 AE .15 Engine

Tools needed:

5/64" (2mm) Allen wrench
Small flat head screwdriver
Tape
Light weight oil
Needle nose pliers
Dremel and fiberglass wheel
Ruler
400 grit sandpaper
Engine cleaner

Other parts needed:

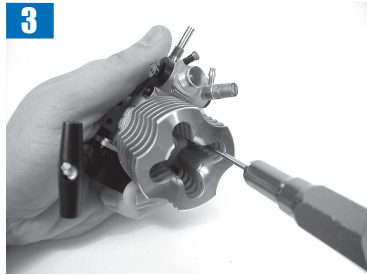
#7770 non pull start engine mount adapters
#7610 non pull start flywheel
#7736 non pull start manifold
#6928 manifold screws
#7734 manifold gasket
(For tub chassis, use #7627 non pull start engine mount adapters, in addition to rest of list above.)

STEP 1

Remove the engine, pull start manifold, and pull start engine mount adapters from your truck.

STEP 2

Remove your clutch bell, clutch shoes, pull start flywheel, and flywheel collet from your engine.



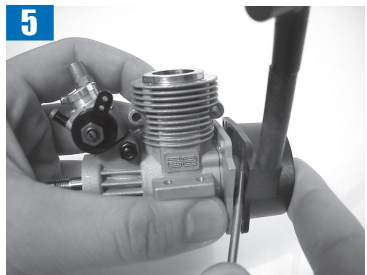
STEP 3

Use a 5/64" (2mm) Allen wrench to loosen the head bolts that hold your cylinder head to the case. While loosening the head bolts, gently rock the head side to side to break it loose. Now remove the head.



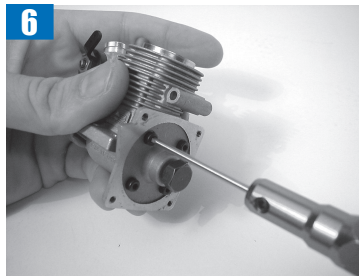
STEP 4

Use a 5/64" (2mm) Allen wrench to remove the four bolts from the pullstart.



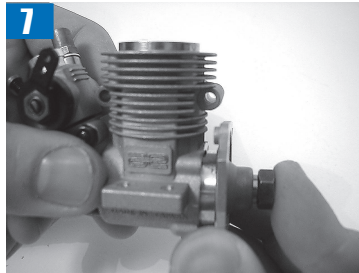
STEP 5

Carefully remove your pullstart with a flat head screwdriver. Make sure the pullstart spring-loaded wheel doesn't fly apart when removing it. After removing the pullstart, wrap tape around the pullstart to keep the spring in.



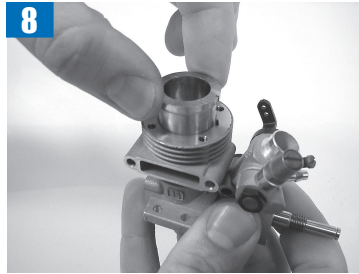
STEP 6

Use a 5/64" (2mm) Allen wrench to remove the four bolts from your back plate. Remove the back plate gasket.



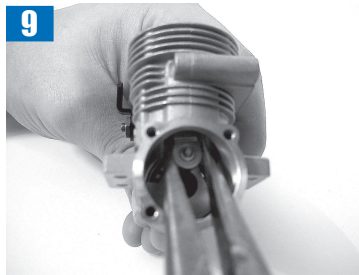
STEP 7

Remove your backplate and starting axle.



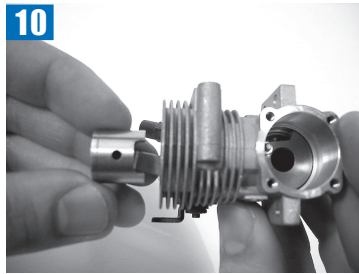
STEP 8

Rotate the crankshaft until the sleeve slightly slides up out of the case. Pull the sleeve straight up and out the top of the case. You may need to use a hobby knife to wedge between the sleeve and crank case to lift the sleeve out.



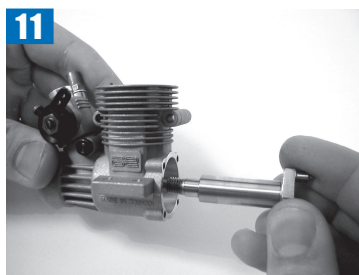
STEP 9

Rotate the crankshaft until the crank pin is top dead center. LIGHTLY grab the connecting rod with a pair of needle nose pliers and GENTLY remove it from the crank pin.



STEP 10

Tip the engine on its side. Remove the connecting rod and piston from the top of the crank case.



STEP 11

Remove the crankshaft from the crank case by pulling it straight out.

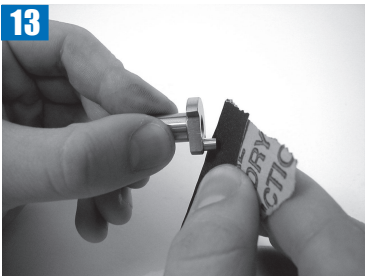
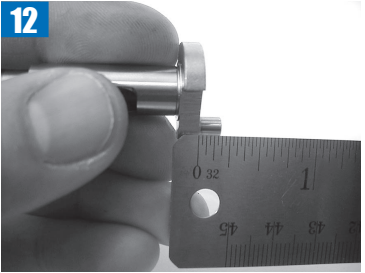


STEP 12

We recommend using a Dremel with a fiber cut-off wheel for this step. The crank pin should be cut exactly 3/8" long. Cut off the one-way bearing tip of the crank pin.

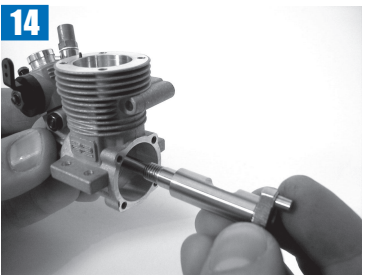
CAUTION! Cutting to incorrect length can destroy the engine. Be EXTRA careful not to cut it too short or keep it too long.

DANGER! Wear goggles to protect your eyes!



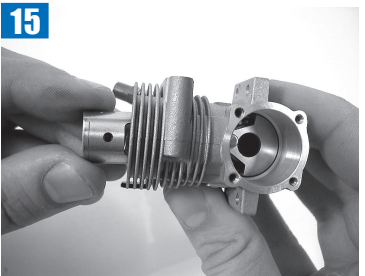
STEP 13

After cutting the crank make sure not to leave any burrs on the edge of the crank pin. Lightly sand the edges down with 400 grit sand paper. After you have finished cutting and deburring it, spray it off with engine cleaner to remove all metal shavings.



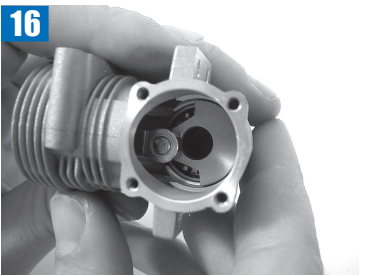
STEP 14

Reinstall the crankshaft into the engine making sure it spins freely.



STEP 15

Insert the connecting rod and piston into the case through the top of the cylinder.



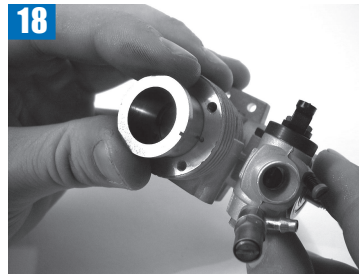
STEP 16

GENTLY place the end of the connecting rod over the crank pin with your fingers.



STEP 17

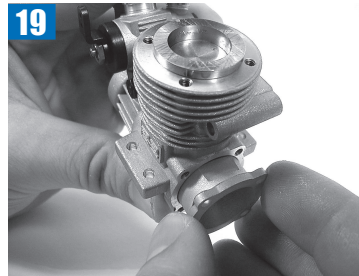
Place a few drops of 3-in-1 or any light weight oil on the connecting rod bushing and on the crank pin. Rotate the crank several times to distribute the oil. You must not leave this step out!



STEP 18

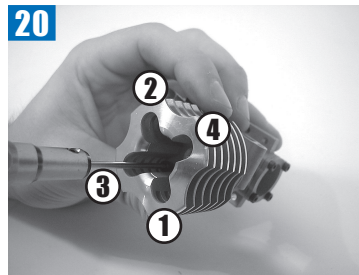
Start the sleeve into the top of the crank case. Rotate the sleeve around until the notch in the sleeve and the pin in the case lines up. With the two lined up and the sleeve started over the piston, insert the sleeve into the case.

CAUTION! Failure to align correctly can destroy the engine.



STEP 19

Align the flat spot on the back plate so it is facing up towards the cylinder head. Install the new backplate and the new backplate gasket with the original screws.



STEP 20

Reinstall your head using the 5/64" (2mm) Allen wrench. Tighten the head bolts in small increments in a cross pattern (as numbered in picture) until the head bolts are tight.

CAUTION! DO NOT OVER TIGHTEN!

STEP 21

Install the non pull start flywheel and old clutch assembly onto your engine.

STEP 22

Install the non pull start manifold and manifold gasket with the non-metric #6928 screws onto your engine, and hook up the tuned pipe.

STEP 23

Install the non pull start engine mount adapters.

STEP 24

Install your engine back into your truck.

WARNING!

This modification should not be attempted by anyone under the age of 18 or without previous engine experience.

This procedure is difficult and voids any and all implied or expressed warranties by any manufacturer.