2013 JR

Magnat plasma trimning

Alignment procedure for MP-02  
  
1) Check supply voltage of the plasma driver circuit:  
Unscrew the flame shielding ball. Connect dc voltmeter between ground and input of R19. Voltage should be 28V at idle condition.  
2) Test if (HF) oszillator is operating: insert flame electrode and re-attach shielding ball. Connect a frequency counter to R19 / T1 by using a 1K resistor (for decoupling). Assure that no ambient light is shining on the 'phototransistor' (i think this means FZ1) . Switch on the unit. Counter should read approx. 27.11Mhz.  
3)Check HF-voltage at base-emitter resistor (R21) of transistor PT9783 (T3). If HF signal is existant, check if L7 (the large output resonator coil) has good connection to C25 and if the ignition circuit (solenoid) is working correct. The (opened) circuit can be switched on only under subdued ambient light. If the little neon bulb (GL1 at L6) glows, the output tank circuit is de-adjusted or there is no flame electrode inserted. Carefully adjust trim capacitor C28 towards lower capacity. When plasma flame ignites, adjust C28 to maximum flame size and just turn back until flame starts to decrease.  
4) If unit still fails to operate, change power transistor PT9783. Besure not to twist the transistor case while mounting. Use thermal compound for mounting. Observe that the transistor 2SC1306 has to be reinserted with isolation. After changing transistor, proceed alignment as layed out at 3.)

I remember that circuit as it is basically a CB transmiter at a very high power level.  
I have had a few RF amplifiers back in the day that used the PT9783 and they are very rare to find.  
And when found very expensive.  
  
[Semiconductor: PT9783 (PT 9783) - TRANSISTOR ASI - US$ Site](http://www.electronic-spare-parts.com/descript/p/pt_9783.htm)  
  
A single transistor outputs about 50 watts,  
  
[PT9783 datasheet and application note, data sheet, circuit, pdf, cross reference | Datasheet Archive](http://www.datasheetarchive.com/PT9783-datasheet.html)  
  
Since they were in 12 volt circuits I could use a MRF454 or MRF455 to replace them with.  
  
<http://www.macomtech.com/datasheets/mrf454.pdf>  
  
<http://www.macomtech.com/datasheets/mrf455.pdf>  
  
But your circuit is at 28v and there is a MRF number for that voltage range only I don't know it off hand.  
  
I can find it out for you if find that it is faulty.

|  |  |  |
| --- | --- | --- |
| **Magnat plasma tweeters MP02**  [See original listing](http://www.ebay.com.au/itm/Magnat-plasma-tweeters-MP02-/321134285713?nma=true&si=gtH0BRzMPF494uoRjYGbvRUEz8g%253D&orig_cvip=true&rt=nc&_trksid=p2047675.l2557) | | |
| |  |  | | --- | --- | | |  | | --- | | Magnat-plasma-tweeters-MP02 |   Item Ended | |  |  |
|  |  |
| Item condition:  --not specified  “used with factory manual & boxes” |  |
| Ended:  05 Jun, 2013 14:26:48 AEST |  |
| Winning bid:  US $1,482.00  Approximately **AU $1,666.67**  [ [2 bids](http://offer.ebay.com.au/ws/eBayISAPI.dll?ViewBids&_trksid=p2047675.l2565&rt=nc&item=321134285713) ] |  |
| Postage:  US $400.00 Standard Int'l Shipping |  |
| Item location:  Sydney, NSW, Australia |  |
| Seller:  [we212](http://myworld.ebay.com.au/we212?_trksid=p2047675.l2559) ([1084](http://feedback.ebay.com.au/ws/eBayISAPI.dll?ViewFeedback&userid=we212&iid=321134285713&ssPageName=VIP:feedback&ftab=FeedbackAsSeller&rt=nc&_trksid=p2047675.l2560) )  |  [Seller's other items](http://www.ebay.com.au/sch/we212/m.html?item=321134285713&rt=nc&_trksid=p2047675.l2562) |  |