



Approach

www.s-tec.com
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Inside This Issue

- From the Presidents Desk 2
- Meggitt-Meggitt-Meggitt 2
- Dealer Contributions 2
- STC for the MAGIC 2100 3
- MAGICFAQ's 4
- A Note from the
Warranty Department 5
- POH's on the Web 5
- A Note from the Customer
Service Department 6
- GPSS FAQ's 6
- Meggitt Avionics/S-TEC Dealer
Advisory Council Meeting 7
- STC Update 8

Multiple STC's for the Cessna Conquest II Coming Soon

Meggitt Avionics/S-TEC is currently working on STC's for the MAGIC 2100 Autopilot, EFIS System and EIDS for the Cessna 441 Conquest II.

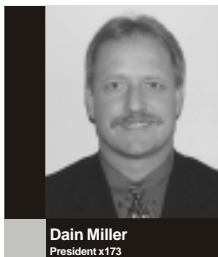
One STC will be for the EIDS (Engine Instrument Display System), one DAS STC will be for the MAGIC 2100, and one STC for the EFIS System with options. The options will include a Single Side EFIS with 1 ADAHRS, a Single Side EFIS with 2 ADAHRS to interface with the MAGIC 2100 Autopilot and Dual Side EFIS with 2 ADAHRS.

In issuing the EFIS STC, the FAA will require a backup attitude gyro, airspeed indicator and altimeter. The STC's for the 441 Conquest are expected to be complete by late summer.



From the Presidents Desk

Meggitt-Meggitt-Meggitt



While consolidation efforts continue to advance at Meggitt Avionics/S-TEC, our production has done an over-the-top job at maintaining sales goals as well as internal targets the past several months.

We are very pleased and excited about the TSO Approval on the MAGIC 1500, the first of the new digital autopilot series, as well as receiving the STC for

the first application of the new autopilot on the Piper Meridian. These certifications represent a significant milestone in the growth and future of Meggitt Avionics/S-TEC. We are also working on obtaining multiple STC's for the Cessna Conquest, which should be completed by late summer, as well as an STC for the MAGIC 2100 on Twin Commander Aircraft which will be completed by July 4th.

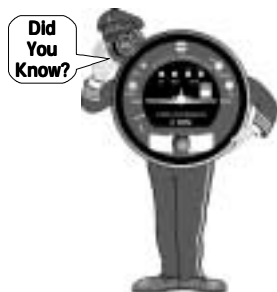
For the Second year running, our Dealer Advisory Council meeting held at the AEA in Palm Springs this April, was both insightful and beneficial. It is our goal that the knowledge that we gain from these council meetings will allow us to provide you with the continued support that you have come to expect and deserve from us. Our next meeting, which will be held at our Mineral Wells facility, is scheduled for Mid-October.

If you're planning on attending EAA Air Venture in Oshkosh, WI this July, be sure to stop by our booth. We will be located in Hangar D, booths 4043-4045. Located directly outside the door of our booth, our Cessna 182 will also be on display with a MAGIC EFIS system and a System Fifty Five X autopilot.

In the remainder of the newsletter, we have focused on some of the most commonly asked questions for our MAGIC EFIS system and GPSS Converter.

If you would like to see a particular topic addressed in the the Approach, contact the editor to discuss your ideas. We are writing this newsletter with you in mind, so your input is both beneficial and insightful to us.

www.s-tec.com/pubs is a constantly updated Publications Index



One of the challenges that S-TEC has faced since its acquisition by Meggitt is Meggitt name awareness. Since our inception in 1978, S-TEC, and our dealers, have made a significant successful investment in the S-TEC name. The evidence of that success is our 90% + market share. As stated in the article on page seven, our current strategy is to keep the S-TEC name for our piston aircraft products and use the MAGIC name for turboprop products.

To illustrate that the Meggitt name is receiving market recognition, the council members at our 2nd annual Meggitt Avionics/S-TEC Dealer Council meeting suggested that we share the results of the 2002 Avionics Optics Survey that was featured in the April issue of Professional Pilot. This is the 4th year in which Professional Pilot has invited readers to rate avionics manufacturers and their products. The questionnaires were targeted toward pilots as day-to day users of avionics systems.

Meggitt made its first appearance this year arriving at the number four spot for the overall ranking of avionics manufacturers. In the individual categories, Meggitt ranked 1st in "technical advancement", 2nd in "operation and presentation" and 3rd in "information available" for the Secondary Flight Display Standby Gyro.

Efforts to raise name recognition for Meggitt will continue to be made in our advertising and promotional efforts, and as more STC's become available for the MAGIC EFIS system, the Meggitt name will continue to draw interest.

Dealer Contributions

By now, most of you are used to receiving the quarterly issue of the Approach that we have been mailing out to you over the past seven years. We are consistently trying to provide you with the latest updates as well as technical information that we feel could be beneficial to you. We understand that many of you would like to see more technical articles, and along with your help, we can accommodate this request more effectively. There have been many technical articles covering a wide range of subjects, but we would like to know what topic matters you would like to see addressed in the Approach. We are writing this newsletter with you in mind and want you to receive the most out of each issue that you receive. If you have any thoughts or suggestions on articles you would like to see in future editions of the Approach submit column contributions to the Editor.

Coming Soon!

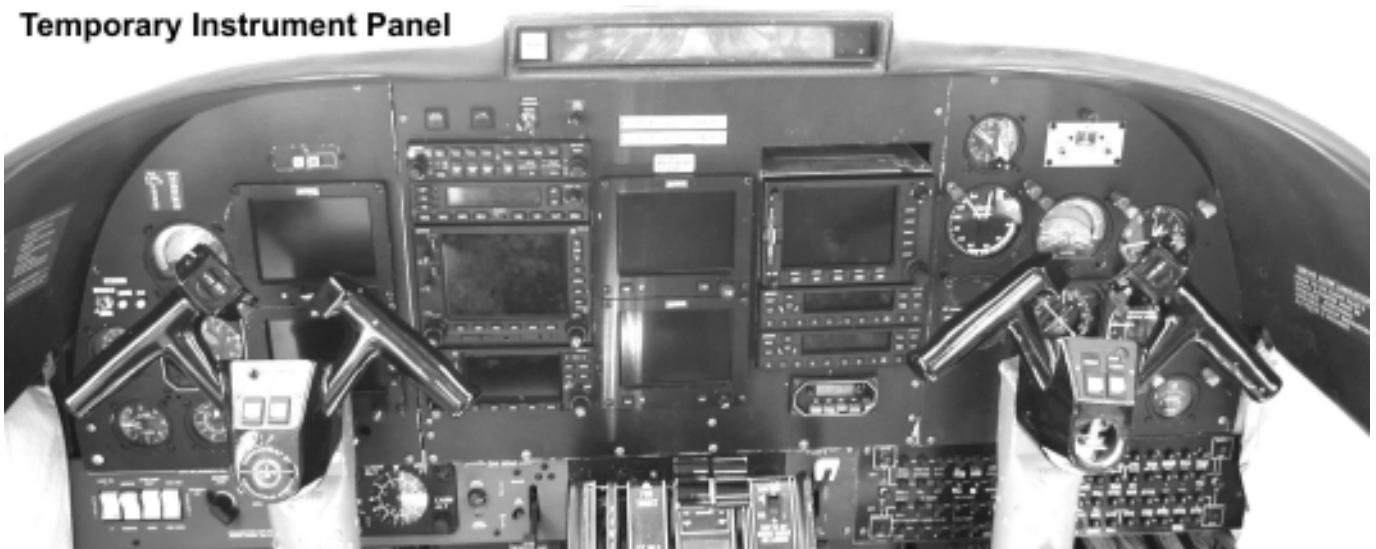
STC for the MAGIC 2100 on Twin Commander Aircraft



On March 12, 2002, Twin Commander and Meggitt Avionics/S-TEC, following an extensive development and flight-testing program, completed the STC for the MAGIC electronic flight and instrumentation system for the 690-series Twin Commander aircraft. Production units are available for delivery to authorized Twin Commander-Meggitt Service centers for installation in customer aircraft. MAGIC will be standard on Grand Renaissance Twin Commanders, and available for retrofit in other Twin Commander 690-series models. FAA approval on Twin Commanders marks the first application of the Meggitt MAGIC system in a multi-engine turbo-prop aircraft.

A 690-Series Twin Commander is currently at Meggitt Avionics/S-TEC undergoing the STC process for a new digital MAGIC 2100 autopilot. The STC is near completion and should be completed by July 4th.

Temporary Instrument Panel



MAGIC FAQ's

Installation FAQ

What autopilot and NAV/COM interfaces are available?

Currently, Meggitt offers interfaces to the S-TEC autopilots and NAV/COM with an Arinc 429 output such as a Garmin 430/530. In the future we plan to offer the following:

Autopilots:

Collins AP106, Allied Signal KFC200/250/300 series, Sperry SPZ500

Nav/Comms:

Collins VIR-30 series, UPS-AT, Bendix-King Silver/Gold Crown series.

What is needed to complete the EFIS system?

Fluxgate input, pitot/static input, 28 Vdc power.

What STC approvals does Meggitt currently hold, or plan to obtain?

The MAGIC® EFIS is currently TC'd on the Piper Meridian. Meggitt holds STC's for the Malibu Mirage, Twin Commander 690-Series, and the Bonanza A36. Meggitt also holds an STC for the MAGIC EFIS 500ARM, which allows MAGIC to be approved in various aircraft.

Is the Engine Display System suitable for piston aircraft?

Unfortunately, the EIDS does not interface with traditional piston engine sensors, nor does it present a cost effective engine instrument solution.

What is the size and weight of the MAGIC® components?

The PFD, ND, and EDU's are 4.5"H x 5.5"W x 6.5"D, and weigh approximately 4 lbs each. The ADAHRS is 4"H x 4"W x 6"D and weighs 4 lbs. The DAU is 2.5"H x 6.5"W x 9.5"D and weighs 8 lbs for single turbine engine applications.

Are back-up instruments required?

Yes. As with any powered EFIS system, backup airspeed, attitude, and altitude indicators are required. We recommend that you contact a local authorized MAGIC® dealer to investigate certification requirements for your aircraft configuration.

I have a customer who is interested in the MAGIC system, but there is not an existing STC. Are you offering assistance to dealers?

YES! Meggitt is aggressively seeking STC approval on various aircraft. We are offering special pricing and assistance to dealers that are willing to obtain STC approval for a target aircraft.

Operation FAQ

Does the SEL button cycle through the HSI, ARC, and MAP modes without opening the menu? Is the range in the MAP and ARC modes selectable with the up and down arrow keys without entering the menu?

The latest revision of the software includes the ability to cycle through HSI, ARC and MAP modes without opening the menu. Also, the range within MAP and ARC modes are selectable without entering the menu.

My aircraft is capable of descents up to 5000 FPM, will that be displayed on the PFD?

The system is programmable up to 6000 FPM.

Can the airspeed display be re-programmed in the field, or will the computer have to be sent out for programming?

The New Adjustable Airspeed Marking system allows for the avionics shop to input all airspeed markings.

We are considering a single GPS installation. Will we be able to display VLOC information from NAV 2 without a second GPS?

VLOC information will be displayed as long as it is sent to us via Arinc 429.

I have noticed the ground reference indicator on the altitude tape. Is there also a "rising runway" indicator that rises into the bottom of the command bars?

The Ground Reference Indicator displays a Radio Altitude of 0 ft, by means of a brown line on the Barometric Altitude Scale tape. There is no additional indicator.

Is the stall indication on the airspeed tape sensitive to flap position or an angle of attack sensor, or is it set to a specific speed?

It is set to a specific speed.

Is there a reversionary mode for the PFD in the event that the ND fails?

If the PFD fails, the reversionary mode is displayed on the ND. There is no reversionary mode for the ND.

Can I show weather, traffic, and moving map information on the Nav Display?

Not at this time. Meggitt Avionics decided to keep the ND as a basic electronic HSI for the initial certification process.

MAGIC FAQ's Continued

Can I move all or part of the information presentated to other displays?

Unfortunatley, no. The TSO and TC/STC certification approval process dictates that primary flight and primary engine information be fixed in the pilots primary scan pattern.

Will the system work in my aircraft?

In general terms, MAGIC EFIS will work in any aircraft. One must consider aircraft system architecture with respect to certifiability. Your local authorized MAGIC dealer will be able to assist you with this.

Does the MAGIC System require a particular autopilot or NAV/COM?

Yes. Currently, MAGIC must be interfaced with an S-TEC autopilot and a GPS with ARINC 429 capability such as a Garmin 430/530

How does the Meggitt EFIS system compare to electro-mechanical instruments and existing EFIS systems?

The MAGIC EFIS compares favorably to existing CRT-based EFIS systems. Meggitt's system is approximatley 1/3 the cost, and provides significant weight advantages without compromising functionality.

A Note from the Warranty Department

With the help from additional personnel, we have made great strides in processing warranty certificate applications in a more timely fashion. Submission of these applications is the responsibility of the S-TEC dealer who performed the installation, and I encourage you all to do so promptly. This will insure quicker warranty verification and more efficient warranty service.

As a dealer, there may be times that you are requested to perform warranty work on an installation you did not perform. Keep in mind that the customer is obligated to provide proof of warranty. This makes it important for us to work together to supply the customer with that documentation as soon as possible after installation.

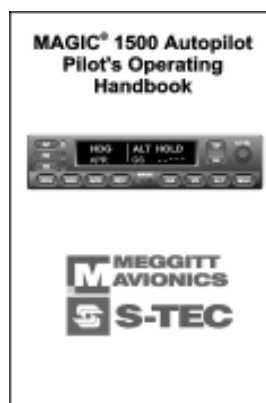
Our Warranty Policies are stated in the S-TEC Warranty Manual PN 8757. This should be located in your S-TEC Dealer Sales Handbook. A current copy, if needed, will be supplied upon request.

POH'S Available on the Web

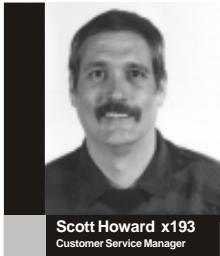


As a service to our dealers, customers, and potential customers, all new and existing POH's will be hosted on our website at www.s-tec.com in PDF format. The new POH's that are available on our website are the MAGIC 1500, MAGIC 2100 and the SA 200. The ST 180, HSI Slaved Compass System, GPSS Converter and the System 60-2 have been revised and are also available. We are currently working on the System Twenty, System Thirty, System 40, System 50, System Thirty ALT and the System FiftyFiveX. These will be completed within the next 60 days.

For access to the MAGIC EFIS and EIDS POH's go to Meggitt Avionics website at www.meggittavi.com, click on MAGIC then technical documents.



A Note from the Customer Service Department



With the ever increasing number of S-TEC autopilot systems flying in general aviation aircraft throughout the world, as well as all the associated component exchanges, conversions and upgrades, it is becoming difficult for our Customer Service personnel to track warranty and system/component history by unit serial number alone.

The FAA is requiring manufacturers to provide more detailed accounting of their products. Because of this, we are in the process of developing a new database that will more efficiently associate individual components to the exact aircraft in which they are installed.

To accomplish this, our service department will require more complete aircraft information to provide warranty exchanges or perform factory repairs. The following information must be supplied in order to obtain warranty exchange:

- 1) Aircraft model number
- 2) Aircraft serial number
- 3) Aircraft registration (tail number)
- 4) Registered owner's name
- 5) Component part number (and serial number if known)
- 6) Aircraft voltage (and heading system type if applicable)
- 7) Reason for return (in detail)

In cases where the installing agency did not submit a warranty application, the name of that agency and approximate date of installation may also be required.

For quality control purposes, we will also request that it be stated if failure was "Out of Box". The definition of "Out of box failure" is a component that failed during or after installation, but before aircraft was returned to service and warranty activated.

The above information must also be provided with units sent to the factory for warranty repair, and at least items (1), (3), & (7) for non-warranty repairs.

As our new system evolves, a return authorization number will be required for units returned to the factory for either repair or exchange and the detailed information may be conveyed by phone at that time. This will take a little getting use to by both S-TEC Customer Service Reps and S-TEC dealers. Initially it sounds like a lot of extra red tape, but the benefits will be apparent by improved service to our dealer network and customers, as well as improved quality of our products. Thank you for your patience and cooperation.

GPSS FAQ's



Why does my autopilot drive left in GPSS mode?

The jumper between pin 12 and pin 16 on the wiring drawing has to be in place even if you are using one of these pins for something else. If this jumper is not in place it will turn left all the time.

What causes the GPSS flash while I am still on the ground?

When doing a ground check the GPSS will flash. One of the labels we use is ground speed. You can get a valid signal on your GPS unit if you use demo mode or simulator mode.

What do I do when GPSS still flashes in flight?

One of the reasons your GPSS may still be flashing while in flight is that you don't have a valid signal. Check to make sure pin 20 or pin 22 are not grounded. If either pin is grounded, the GPSS led will flash.

Why does my autopilot not follow a heading bug after installation of the GPSS converter?

The GPSS converter is typically configured at the factory for any approved type heading system specified at the time of order. If no heading system is specified on the order, the unit will be set up as standard for an S-TEC DG.

How do I know if my GPSS Converter will work with the 232 interface on the UPS GX series GPS?

The new converter box that will be compatible with the UPS GX series is designated with a hardware and software letter code after the SN. (ex. 555D/A)

My GPSS converter doesn't have a voltage placard.

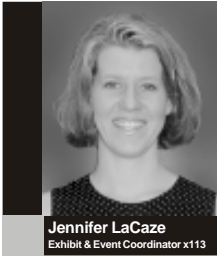
How do I know if it works with 14v or 28v?

If the converter has any letter code after the serial number, it is not voltage sensitive and will work with either voltage.

Why do I never get a valid signal when I'm using a UPS GX series GPS and the GPSS converter?

RS232 Tx and RS232 serial ground is shown on the wiring diagram. This serial ground must be connected to pin 9 on the converter, not airframe ground.

Meggitt Avionics/STEC Dealer Advisory Council Meeting



The Meggitt Avionics/ S-TEC Dealer Advisory Council was formed in May of 2001 to gain beneficial dealer input utilized in the management of our business to enhance the dealer/manufacture distribution relationship. The first meeting of the Meggitt Avionics/ S-TEC Dealer Advisory Council, held at the AEA in Dallas, was tremendously successful as was the 2nd meeting, held at the AEA in Palm Springs this April. We are excited about the new opportunities and insight the council affords. The information collected from our meetings will have an immense impact on our response to dealer/customer demands.

Each dealer attending the advisory council meeting was randomly selected for either one, two or three year council terms. Our next Dealer Advisory Council Meeting will be held at our S-TEC facility in Mineral Wells, TX mid October. If you have any questions or concerns that you would like addressed at the advisory council meeting this fall, please contact one of the following council members.

Fred Atwood
Woodland Aviation
800-442-1333

Steve Vold
Aertronics, Inc
406-259-5006

Pat Ahr
Ahr Avionics
210-377-3195

Rick Milburn
JA Air Center
630-584-3200

Ken Malone
Mayday Avionics
616-957-4920

Bob Carpenter
Carpenter Avionics
800-300-0352

Bob Ferguson
Autopilots Central
918-836-6418

Jim Lauer
IFR Avionics
818-782-4810

Rick Garcia
Gulf Coast Avionics
863-709-9714

The first topic of the meeting addressed was Meggitt Avionics/S-TEC recent consolidation. The leading question of discussion was name recognition. S-TEC realizes that brand awareness is a real challenge. Our current strategy is to keep the S-TEC brand for our piston aircraft products and use the MAGIC brand for turboprop products. The Meggitt name is not as well known as S-TEC in the aftermarket. We are working on name identity in our advertising and promotional efforts.

The Meggitt Avionics/ S-TEC product line was the next item presented to the council. We were pleased to announce the introduction of two new products, the SA-200 and the MAGIC 2100. Lengthy discussions were communicated on how the 2100 autopilot operated and STC plans for the new autopilot. Twin Commander, Conquest II, King Air 90, Cheyenne II, Fairchild II/IIIB, Conquest I are just a few of the aircraft that we will be working on to receive DAS STC's.

The next topic of the council meeting addressed was service manuals. The question asked was "would you like to see service manuals on the web?" The response was positive but it was also noted that paper copies should not be done away with.

We would like to thank all our dealer council members for attending and for providing us, once again, with insightful and beneficial information. The knowledge we gain from these council meetings will allow us to provide you with the continued support that you have come to expect and deserve.

STC UPDATE APPROVALS SINCE LAST NEWSLETTER

SYSTEM	AIRCRAFT
20/30	WACO model YMF when modified by STC SA1000GL (WACO F5 and F5C modification) (28V)
60-2	Navion models A, B, D, E, F, G, and H when modified by Palo Alto Airport, Inc. or Symon's Engineering horizontal stabilizer angle of incidence change with or without tip tanks and the above models when modified by 285 H.P. engine conversion (14 Volt System)
65	Navion models A, B, D, E, F, G, and H when modified by Palo Alto Airport, Inc. or Symon's Engineering horizontal stabilizer angle of incidence change with or without tip tanks and the above models when modified by 285 H.P. engine conversion (14 Volt System)
30 ALT	Navion models A, B, D, E, F, G, and H when modified by Palo Alto Airport, Inc. or Symon's Engineering horizontal stabilizer angle of incidence change with or without tip tanks and the above models when modified by 285 H.P. engine conversion (14 Volt System)
MET	Navion models A, B, D, E, F, G, and H when modified by Palo Alto Airport, Inc. or Symon's Engineering horizontal stabilizer angle of incidence change with or without tip tanks and the above models when modified by 285 H.P. engine conversion (14 Volt System)
55/55X PSS	Beech models 95, B95, B95A, D95A, and E95 (28V) Cessna models 172R and 172S and Reims Aviation S.A. models F172M and F172P (28V)
60-2 55/55X	Cessna models 172R and 172S (28V) Beech models S35, V35, V35A and V35B and models S35, V35, V35A, and V35B when modified by any combination of the following STCs: SA1035NE (turbocharged engine), STC SA019074SC (vortex generators), STC SA4-1629 (tip tanks), STC SA5223NM (turbo-normalizing system) (14V)
YD	Beech models S35, V35, V35A and V35B and models S35, V35, V35A, and V35B when modified by any combination of the following STCs: SA1035NE (turbocharged engine), STC SA019074SC (vortex generators), STC SA4-1629 (tip tanks), STC SA5223NM (turbo-normalizing system) (14V)



Mike Keirnan
Director of Flight Engineering x 243

Current Publications

Listed here are the current revisions for S-TEC documents important to your business. If you need an updated copy, please order by part number by calling 1-800-USA-STEC.
(Bold Items are NEW)

Prices	Date	P/N
A/P Selection Guide	02/01/01	86194
TEC Line MSRP	02/01/01	86183B
Dealer Price List	02/01/01	86184
STC List	10/04/01	86203

Technical Publications

Master Index	Date	N/A
<u>Technical Manuals</u>		
System 60-1	03/10/98	8755
System 60-2	04/21/99	8789
System 40/50	06/6/85	8792
System 55	02/01/02	8750
Yaw Damper	06/1/96	8753
Turn Coordinator	04/29/93	8709
System 20/20/30ALT	03-10-98	8764

POH'S

System 55X	04/03/01	87109
System 550	09/27/00	87105
Altitude Sel/Alr	10/26/00	87110
GPSS	01/14/02	8799

Service Bulletins & Letters

SL00-001	Install Insulators 01/04/00	7708
SL00-002	Alt & VS on 55 02/21/00	7709
SL00-003	GPSS ARINC 429 12/06/01	N/A
SL00-004	Alt/Ver Spd Sel/Alr 10/17/00	N/

PROJECTS IN PROCESS SINCE LAST NEWSLETTER

SYSTEM	AIRCRAFT
60-2 w/o trim	Rockwell International North American models AT-6A (SNJ-3), AT-6B, AT-6C (SNJ-4), AT-6D (SNJ-5), AT-6F (SNJ-6), SNJ-7, and T-6G
01284 20/30	Twin Commander 690, 690A, and 690B (28V) Cessna 182P and 182Q when modified per STC SA1382WE (Robertson STOL) and Reims Aviation S.A. Cessna models F182P and F182Q when modified per STC SA1382WE (Robertson STOL) (14)
40/50	Reims Aviation S.A. Cessna models F182P and F182Q Cessna models 182P and 182Q; Reims Aviation S.A. Cessna models F182P and F182Q when modified by: 1.STC SA485SW (Wren conversion) and STC SA3825SW or 2.STC SA950CE (Horton STOL) and/or STC SA2285CE (Horton flap gap seals) and STC SA3825SW (260 H.P. engine conversion) or 3.STC A1382WE (Robertson STOL) and STC SA3825SW (260 H.P. engine conversion)
60-2 01284	Cessna models 320, 320-1, 320A (28V) Cessna model 441 (28V)

M Approach

Published and copyrighted by Meggitt Avionics/S-TEC, the *Approach* is intended to provide S-TEC and Meggitt Avionics dealers with information valuable in the everyday selling and servicing of S-TEC flight controls, TEC Line Avionics, and MAGIC.

Comments and suggestions are encouraged and welcomed. For additional copies of the *Approach* for others in your organization or for distribution to your own mailing list, contact:

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