

## John Trull

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**From:** Trull, John  
**Sent:** 05/11/2003 10:37:03 AM  
**To:** Danner, Dale; Hennings, James  
**CC:** Franz, Scott  
**BCC:**  
**Subject:** RE: Guide Gun DAT Status

I concur with Dale. (Did I really just say that?)

John Trull  
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-----Original Message-----

**From:** Danner, Dale  
**Sent:** Wednesday, May 07, 2003 1:46 PM  
**To:** Hennings, James  
**Cc:** Franz, Scott; Trull, John  
**Subject:** FW: Guide Gun DAT Status

Jim,

Attached find our last activity on the Guide Gun. . . . At this point we experienced cracking stocks at the 300 round level using the single screw design and at the 600 rnd point with the double screw design. . . . Marketing agreed to this level of performance but requested further design work (rivet design) to further enhance the stock strength. . . . My belief is that if the product goes in excess of 1000 rounds without cracks developing that is a reasonable performance point for this product. . . . Marketing may wish to comment on this point further. . . .

For the Sycamore stock test I would also add SAAMI drop/jar/rotation and the thermal testing as well. . . . I will locate the original DAT plan and get that forwarded up to you. . . .

Dale

-----Original Message-----

**From:** Franz, Scott  
**Sent:** Wednesday, January 15, 2003 9:49 AM  
**To:** Trull, John  
**Cc:** Murphy, Randall S.; Diaz, Danny; Danner, Dale; Snedeker, Jim; Reesor, Phillip K.; Bunting, Jay; Mroz, John B.; Pernicaro, Stephen  
**Subject:** RE: Guide Gun DAT Status

John,

All testing is now complete. The 40 lb. trigger tests, obstructed bore and high pressure abuse tests were completed with no issues. Randy is proceeding with transmittal. The Test Lab supports the activity to evaluate the riveted design. A test was run where a cracked and setback stock was fired 5 times with standard ammunition to confirm that this condition is only a warranty concern. Results confirm this position. Please call if you have any further questions.

Scott Franz

-----Original Message-----

From: Trull, John  
Sent: Wednesday, January 15, 2003 9:39 AM  
To: Franz, Scott  
Cc: Murphy, Randall S.; Diaz, Danny; Danner, Dale; Snedeker, Jim; Reesor, Phillip K.; Bunting, Jay; Mroz, John B.; Perniciaro, Stephen  
Subject: RE: Guide Gun DAT Status

All,

Marketing acknowledges the issue with the stocks cracking and accepts this condition. Please move forward with transmittal. This being noted, I would like for E-town and Ilion to take a look at the effect of placing a rivet in the stock as a possible longer term solution to this condition in order to mitigate potential warranty/repair concerns. This effort should not however, impair the current T&P or production schedules.

Any questions or comments, please advise.

Thanks,

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-----Original Message-----

From: Franz, Scott  
Sent: Friday, January 10, 2003 4:37 PM  
To: Trull, John  
Cc: Murphy, Randall S.; Diaz, Danny; Danner, Dale; Snedeker, Jim; Reesor, Phillip K.  
Subject: FW: Guide Gun DAT Status

The following summarizes status on the Guide Gun DAT as of today, 1/10/03. As everyone knows there have been issues around stock failure (cracking and recoil lug area setback), malfunction issues and ammo availability that has delayed completion of this DAT as originally planned. The remaining tests yet to be completed are the two trigger tests (SAAMI & Remington tests using a 40 lb. load), obstructed bore and high pressure. The two trigger tests and the obstructed bore test are scheduled to be run today. The high pressure test will be completed early next week after load development for the 120 ksi load is complete. The main issue with DAT was and still is the cracking and setback of the recoil lug area of the stock. Thermal testing does accelerate this failure, however testing under normal shooting conditions also generates the failure. A design change was tested (double enforcement screw up front), however failures of the stock occurred with this design as well. The earliest stock failure during normal shooting occurred at just over 300 rounds with a single enforcement screw and at about 600 rounds on two stocks with double enforcement screws. A picture of these two failed stocks is shown at the bottom of this e-mail. When this failure occurs the action moves rearward in the stock resulting in damage to the magazine box. In addition the stock just behind the bolt handle breaks off from impact with the handle. The second picture shows this failure area on the two double enforcement screw stocks that failed. Other cracks in the stock inletting area around the take down screw holes have consistently occurred. Stock cracking and more specifically the recoil lug area setback is a DAT Exit issue. The Test Lab cannot support transmittal of this product without Marketing's formal acceptance of this condition. Randy Murphy is currently pursuing a riveted design. Test Lab supports this action and will do whatever it can to evaluate this as a potential fix. Timing on availability of test samples is unknown at this time.

Since the last update the following activities have occurred.

- 1 Engineering evaluation of ejection malfunctions on four guns

Extractor tension on bolts measured under specification by  
llion.  
Extractor cut in Bolt Head also measured under specification  
per llion.  
New extractors fitted to bolts and retested solved issues on all  
but one gun. A new bolt with a new extractor (extractor tension OK) was fitted to this gun and again  
retested, solving the ejection issue with this gun.  
An additional 500 rds. was put on two of these guns to see if  
extractors took a set, resulting in ejection issues reappearing. Guns functioned fine during this 500 rd.  
test. Extractor tension could not be measured but seemed to be OK after the 500 rounds.

2 Rib Tolerance Extreme Test - Pass

This test was run to determine if extremes in tolerance of the rib  
attachment to the barrel adversely effected group size. Tolerance extremes were simulated by using  
thick and thin o-rings to result in tight versus loose attachment conditions of the rib to the barrel.  
Although some vertical stringing was present the groups recorded were in-line with results generated with  
the nominal floating rib condition.

3 Drop Tests (SAAMI and Extended) - Pass

Four guns of each caliber were tested and all passed SAAMI  
Jar-Off, Rotation and Drop tests.

Three guns of each caliber were tested in Extended Jar-Off,  
Rotation and Drop. All guns passed Extended Rotation and Extended Drop. Three failures were  
recorded in Extended Jar-Off, two at 24 inches and one at 48". These are tests run for information only  
and do not have a bearing on DAT exit pass/fail criteria.

4 Thermal Tests (Hot, Cold, Heat & Humidity, Thermal Cycle)

All four types of tests have been completed  
Stocks cracking issues - worse for Thermal Cycle and Hot Test  
conditions.

Recoil Lug area setback occurred during 1st Hot Test after 64  
rds..

The Hot test was redone with two guns (both 350 Rem  
Magnums) with double enforcement screws installed just behind the recoil lug area. Both stocks looked  
good after this 100 rd. accelerated test.

5 Function & Endurance - Post 1,000 rd. Endurance activity

One 300 RSAUM gun, A-5, was run to 3,082 rounds. This stock  
did crack but no recoil lug area setback occurred during the duration of this test. This gun had a single  
enforcement screw up front. Although the goal was to run this gun to 4,000 rds the test was stopped at  
the 3,082 rd. level due to ammo availability. A second 300 RSAUM, Gun A-2, was run to 1,683 rounds  
with no major issues. This gun had a double enforcement screw up front for the last 1,000 rds. of testing.

Two .350 Rem. Mag guns, A-21 and A-28, were shot to 1,682  
and 1,741 rounds respectively. Gun A-21 had a single enforcement screw. Cracks did occur in the stock  
of this gun but no setback of the lug area occurred. Gun A-28 was tested with stocks with a double  
enforcement screw for the last roughly 1,100 rds. Two stocks with double screws up front failed in the  
recoil lug area (both setback) on gun A-28 at about the same round level, about 600 rounds. The first  
failed stock had been through 1 HOT test cycle previous to this testing. The second stock was a new  
stock. Failure round levels were 600 and 608 rounds respectively with the double enforcement screw.

The goal for DAT was to test one gun of each caliber to 4,000  
rds as the last leg of endurance. With all the extra testing that was done trouble shooting function issues  
and then the stock issue that was not accomplished. Given the ammo situation, out of .300 RSAUM and  
low on handloaded .350 Rem. Mag. ammo, there are no plans to run any guns to higher levels than that  
mentioned here. If anyone feels differently about that please say so now. That will mean purchasing  
additional .300 RSAUM ammo and handloading additional .350 Rem. Mag. ammo.

6 Other Issues

Functioning - The most common malfunctions experienced  
throughout this test were bolt over-rides(BO), round jumps magazine(RJMB) and fail to eject (FE). In all  
cases except one identifiable causes were found. Incorrect magazine springs were found on guns for  
BO's, low extractor tension for FE's and in some cases incorrectly assembled actions for BO's and RJMB  
malfunctions. In one case, gun A-26, no absolute cause could be found for the RJMB condition.

Heavy Bolt Lift on .300 RSAUM actions - This was a consistent complaint from testers throughout this test. Inspections showed in many cases that breech faces were rough and ejector and firing pin holes were not adequately chamfered or edges broken.

Rib Screws - Rib screws were checked throughout this testing to determine if movement occurred. No screw movement was detected at any of these inspection intervals. It was noted however that screw torque did change (was lower) after live firing after 500 rds. and after some of the thermal tests. In some cases broken o-rings were found. It's not known for sure whether this happened from firing or during the removal process when ribs were taken off barrels to be put on other rifles.

In summary most testing will be complete this week except for high pressure abuse. The vast majority of guns functioned very well from a malfunction standpoint. Some guns did experience malfunctions and in virtually all cases there were assignable reasons why, i.e. wrong parts, parts not meeting specification or assembly issues. Bottom line, malfunctions that occurred with these guns are not specific to the Guide Gun. As stated above the major issue continues to be with the cracking and setback of the recoil lug area of the stock. This issue must be solutioned or formally accepted by Marketing before the Test Lab will support transmittal of this product.

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I will report on results of the trigger tests and the two abuse tests when these are complete. As always if anyone has any questions please feel free to give me or Dale Danner a call.

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MY E-MAIL HAS CHANGED to  
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