On The Cover
Designing and Developing
Ken Kelly and Peter Smith show a production run of Transmission Specialties torque converters.
Page 14

Taking Care of Customers
Providing great service when a customer comes in is important, but so is follow-up, says Atlas Transmission owner Jerry McCarter.
Page 6

Technical
Shift Pointers ..........10
Reusing a 6R140W pan gasket may result in a fluid leak.

Torque Converter
Tech Tips ..........18
Pilot wear and cracked flex plates have become an issue again with GM 4L80-E converters.

Up to Standards ..........20
Gear design and operation

Tech to Tech ..........26
Extreme cold can lead to an inoperative 4WD system.

R&R Tech ..........42
Two Hyundalis have the same symptoms but two distinct problems.

Technically Speaking: ..........44
An Audi 01J/OAW Multitronic CVT has a gear-ratio-error code after overhaul.

Body of Evidence ..........46
Distinguishing Tiptronic and non-Tiptronic versions of the 01M

Features
M D Publications Mourns Loss of President and Co-founder ..........2
Kit Suppliers ..........30
Where to Find Kits ..........34
Showpower Review ..........47

It's Your Business ..........39
Rounding down a bill can be a low-cost way to give your customer a little something extra.

News & Previews
From the Publisher..........4
Information Source..........49
Industry News Highlights ..........54-55
Powertrain Products ..........56-58
Marketplace ..........59-64
Index to Advertisers ..........64

Transmission Digest (ISSN 0277-8300) is published monthly by M D Publications, Inc., 3031 E. Carr, P.O. Box 2210, Springfield, MO 65801-2210. Advertising inquiries are welcome by mail or telephone. (417) 866-3917, Fax (417) 866-2781, editorial@mdpublications.com. Advertising rates furnished upon request. Advertiser and agency agree to indemnify and protect the publisher from unauthorized use of any person's name, photograph, statement, or copyrighted material. Copies available by subscription: One year (12 issues) United States and U.S. possessions $39, Canada $48; all other countries via IPM $51 in U.S. funds only. Single copy price $4.75 plus shipping for current or back issues (as available) except the Annual Buyer's Guide which is published as the March issue.
Copyright © 2012 by M D Publications, Inc. All rights reserved. Advertisements and signed articles do not necessarily reflect the opinions of Transmission Digest or its management. Editorial contributions welcome, but return of manuscripts, models or other artwork not guaranteed unless accompanied by a self-addressed stamped envelope. Information contained in Transmission Digest has been carefully compiled from industry sources known for their reliability, but M D Publications does not guarantee its accuracy. Other M D Publications: Undercar Digest, Tech Talk, and Short Line M D Show Division: TRANSMISSION/UNDERCAR EXPO. Periodicals postage paid at Springfield, Missouri, and additional entry offices.
POSTMASTER: Please send address changes to Transmission Digest, P.O. Box 2236, Springfield, MO 65801-2236.

May 2012
PRINTED IN THE U.S.A.
To those who participated, it was a pleasure to see all of you in Dallas at Showpower '12. And we owe a special thanks to Sonnax for donating the Valve Body Roadshow clinic and to the Volume Transmission Rebuilders Group from APRA. The group’s president, Certified Transmission’s Jim S limp, was an encyclopedia of interesting industry tour destinations. Both Bishop International and AER offered warm hospitality, interesting operations, and great food and drink to a group numbering close to 130 people.

We have included highlight photo coverage from the three-day event beginning on page 47 of this issue.

Busy preparing for the tour, perhaps? Bishop missed being listed in the 2012 Buyer’s Guide issue. Contact information for the company:

Bishop International Standard Transmission Dept.
301 Corinth St
Dallas, TX 75207
214-943-1104 • Fax: 214-946-4654 • Toll-Free: 800-843-5068
www.bishopengine.com

Congratulations to Paul’s Transmission in Baker City, Ore. The transmission and auto-repair facility was founded 28 years ago.

Paul Townsend and his team – wife, Debbie; James Coles; and Bryan Conklm – were recognized by the local Chamber of Commerce as Business of the Year. Paul and James, who is a technician at the shop, also were awarded the Chamber’s Exceptional Service Program (ESP) honor.

And finally, the mergers and acquisitions seem never to cease. Information on recent purchases by Transtar and by DACCO is in the Industry News section of this issue on pages 54 and 55. TD

This month in Transmission

• Hyundai A4CF2: solenoid codes
• Nissan/Infiniti RE4F04B: no turbine-speed-sensor reading
• Nissan/Infiniti RE4F22A: failsafe with DTC P0726
Reusable Gasket – Not!

A late-model Ford truck with a 6R140W transmission came into the shop with a complaint of a leak from the front. When the truck was raised on the lift, it appeared that it was leaking out the front, so the transmission was pulled to reseal it.

The front pump was resealed and the transmission was reinstalled. The technician reused the pan gasket because Ford Motor Co. says the gasket is reusable.

Once the transmission was filled, it became apparent that fluid was still leaking out the front; in reality, it was leaking out the front, but not from the pump.

The so-called reusable pan gasket (Figure 1) is actually the cause of the problem. A closer look at the bolt-hole area in Figure 2 shows that part of the rubber sealing material has eroded away and is allowing transmission fluid to leak from the pan gasket. If the gasket were allowed to leak anywhere other than from the front, it would immediately be recognized as a pan-gasket leak or per-continues page 12
Shift Pointers

haps be mistaken for a case-connector leak because of oil running along the pan rail. But in this situation it was leaking from the areas of the front two pan-bolt holes. In Figure 3 you can see that the two front pan-bolt holes are drilled through into the inside of the bellhousing area.

Because the fluid level is above this area when the transmission is full, fluid was leaking from these bolt holes, creating the illusion that the transmission was leaking from the front. Since this incident occurred, I have seen this happen again. Needless to say, the technicians in these shops will never reuse one of these pan gaskets again; you may wish to do the same.

The part number for a new pan gasket is 6L2Z-7A191-BA.

Many thanks to Don from Loreng’s Transmissions for the “heads up” on this potential problem maker.

Shift Pointers Correction

In the Shift Pointers article in the March issue, there was an error in Figure 11 on page 10. The explanations under the two depictions of the sprag should have read “counterclockwise” instead of “clockwise.” All other text and photographs in the article were accurate. Here is the corrected illustration.