SFI FOUNDATION INC.

QUALITY ASSURANCE SPECIFICATIONS™

SFI SPECIFICATION 6.2 EFFECTIVE: APRIL 9, 2026*

PRODUCT: Containment Bellhousing for SFI 1.3 & 1.4 Clutch Assemblies for Nitro-methane, Top Alcohol, and heavy-duty tractor applications.

1.0 GENERAL INFORMATION

1.1 This SFI Specification establishes uniform test procedures and minimum standards for evaluating and determining performance capabilities for Containment Bellhousings for SFI 1.3 & 1.4 Clutch Assemblies for Nitro-methane, Top Alcohol, and heavy-duty tractor applications used by individuals engaged in competitive motorsports.

1.2 The procedures, test evaluations and standards contained herein, are intended only as minimum guidelines for construction and evaluation of products. Certification that products meet such minimum standards is made by the product manufacturer and products are not certified, endorsed or approved by SFI under this program.

1.3 Use of the "This Manufacturer Certifies That This Product Meets SFI Specification 6.2" logo/designation, the authorized artwork style, or conventional lettering by a manufacturer, on a subject product, is intended only to indicate that the manufacturer of the product has represented that they have submitted the product to the recommended tests, with positive results, in compliance with the standards established herein.

1.4 This SFI Specification requires a demonstration that the product of a manufacturer meets or exceeds the requirements when the manufacturer enters the program; and on a periodic basis thereafter. Any manufacturer may participate in the program by providing Containment Bellhousings for SFI 1.3 & 1.4 Clutch Assemblies for Nitro-methane, Top Alcohol, and heavy-duty tractor applications that meet or exceed SFI Specification 6.2 test standards, by complying with the requirements of the SFI Specification 6.2 program, and by signing a licensing agreement with the SFI Foundation, Inc.

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1.5 Compliance with this specification is entirely voluntary. However, when a manufacturer provides Containment Bellhousings for SFI 1.3 & 1.4 Clutch Assemblies for Nitro-methane, Top Alcohol, and heavy-duty tractor applications in compliance with all requirements of SFI Specification 6.2 and enters into the licensing agreement with the SFI Foundation, Inc., they may certify that compliance with such standards is in accordance with the guidelines established herein.

1.6 Manufacturers wishing to participate in the program, in addition to the other requirements of this specification, must label each of their products with the manufacturer's name, trademark or symbol, the date of manufacture of the product and the maximum allowable distance from the center of the bellhousing for the rear opening.

1.7 No manufacturer may display the SFI logo/designation on their product unless the manufacturer has signed a licensing agreement with SFI and has successfully complied with all the requirements of this specification and the self-certification program.

2.0 DEFINITIONS

2.1 Containment Bellhousings for SFI 1.3 & 1.4 Clutch Assemblies for Nitro-methane, Top Alcohol, and heavy-duty tractor applications shall connect the engine block to the continuing driveline (i.e. transmission or differential) and encase the SFI 1.3 & 1.4 Clutch Assembly. The bellhousing shall be designed to absorb and contain a flywheel and/or clutch explosion as defined in this specification.

2.2 Containment Bellhousings for SFI 1.3 & 1.4 Clutch Assemblies for Nitro-methane, Top Alcohol, and heavy-duty tractor applications shall be inspected for recertification at least every two years after the date of original certification or as specified by the certifying manufacturer. When a unit is determined to be acceptable for continued service, a new conformance label marked with the inspection date shall be used.

2.3 Any bellhousing pertaining to this specification shall remain as constructed by the original manufacturer and not modified. If a bellhousing is tested to this specification with the addition of a liner or liners, then the product must be sold and certified in that configuration. The liner(s) must be flush with the flange/mounting surface of the bellhousing. Steel and titanium are the current acceptable materials and the use of any other material must be reviewed by the committee for consideration.

2.4 Scalloping: A contour which results in the outer edge of the bellhousing flange being inside of the radius of the outer edge of an engine / bellhousing mounting bolt hole.

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3.0 CONSTRUCTION

Containment Bellhousings for SFI 1.3 & 1.4 Clutch Assemblies for Nitro-methane, Top Alcohol, and heavy-duty tractor applications can be constructed of any material that can meet the requirements of this specification.

3.1 ATTACHMENT

A. SFI 1.3 CLUTCH ASSEMBLY

There shall be a minimum of seven (7) 7/16" (11mm) diameter Grade 8 fasteners or better, clearly marked, in the top half (180°) of the bellhousing, a minimum of eight (8) 7/16" (11mm) diameter Grade 8 fasteners or better, clearly marked, in the bottom half (180°) of the bellhousing and a minimum of four (4) 3/4" (19mm) studs, one in each quadrant, used to attach the bellhousing to the block/motor plate. Studs and nuts must be supplied by the certifying manufacturer and clearly marked. The bottom two holes cannot exceed 7 inches centerline to centerline.

B. SFI 1.4 CLUTCH ASSEMBLY

There shall be a minimum of seven (7) 3/8" (10mm) diameter Grade 8 fasteners or better, clearly marked, in the top half (180°) of the bellhousing, a minimum of eight (8) 3/8" (10mm) diameter Grade 8 fasteners or better, clearly marked, in the bottom half (180°) of the bellhousing and a minimum of four (4) 3/4" (19mm) studs, one in each quadrant, used to attach the bellhousing to the block/motor plate. Studs and nuts must be supplied by the certifying manufacturer and clearly marked. The bottom two holes cannot exceed 7 inches centerline to centerline.

3.2 INSPECTION COVER OPENING

One (1) hole may be cut, no longer than 8 1/ 2 inches (21.6cm) or 90° of the circumference (whichever is smaller) in length. The opening may not be cut past the plane of the rotating clutch assembly. A cover, that fits the cut out opening, shall be made of the same material and thickness as the bellhousing with a welded fillet plate. A minimum of twelve (12) 5/16" (8mm) Grade 8 bolts or better, clearly marked, shall secure the cover in place.

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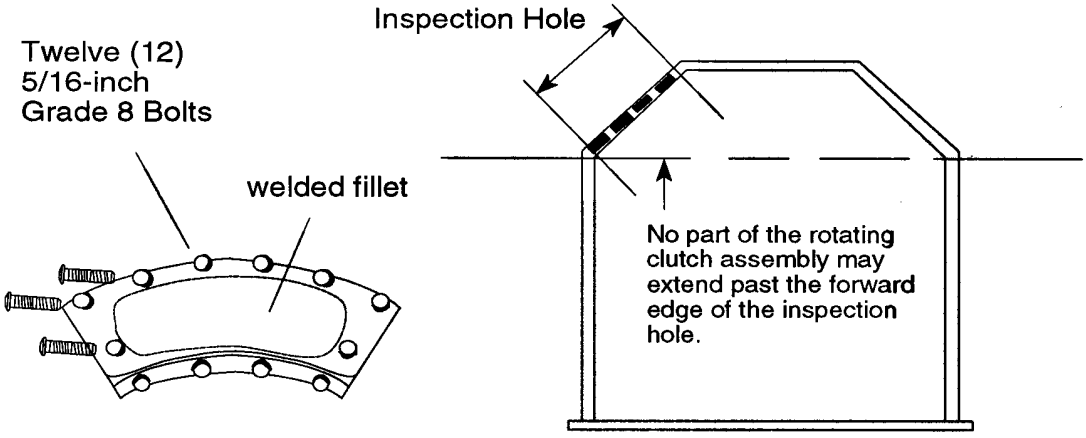
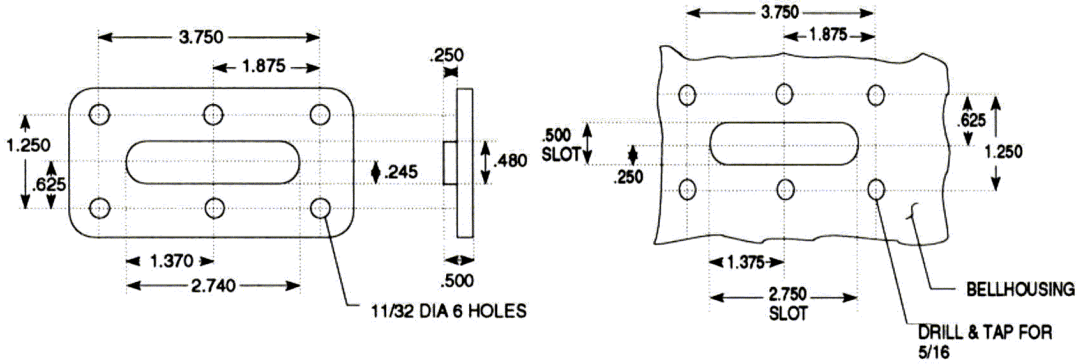


INSPECTION COVER

3.3 ADJUSTMENT SLOT

One (1) clutch adjustment slot may be cut into the barrel of the bellhousing and liner (if applicable) not to exceed 1/2 inch (12.7mm) in width and 2 3/4 inches (70mm) in length. A cover, that fits the cut out opening, shall be made of the same material and thickness as the bellhousing with a welded fillet plate. A minimum of six (6) 5/16" (8mm) Grade 8 bolts or better, clearly marked, shall secure the cover in place.



INSPECTION SLOT COVER

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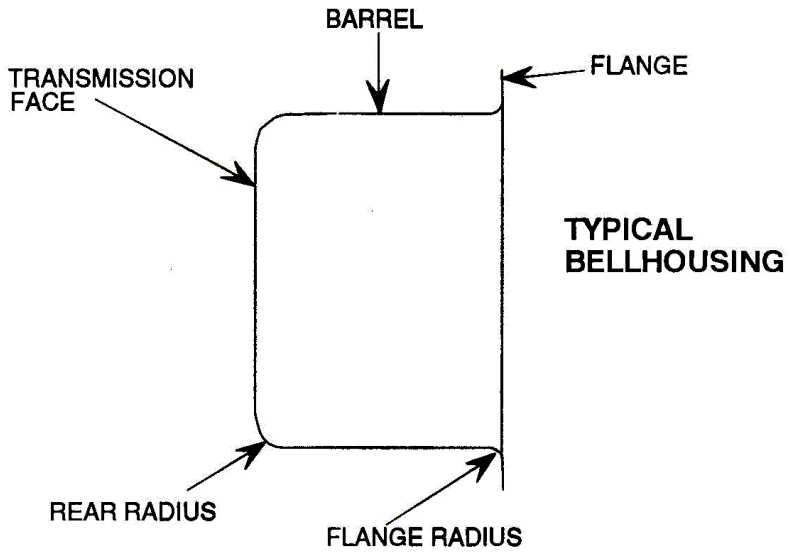
3.4 TRANSMISSION BOSSES

Bosses 1/2 inch (12.7mm) thick must be used to secure the transmission or drive mechanism to the rear of the bellhousing. The bosses must be welded or otherwise secured inside the back face of the bellhousing.

3.5 VENT HOLE

One (1), 2 inch (50.8mm) diameter maximum, vent hole may be installed by the certifying manufacturer. The vent hole must be located in the rear radius of the bellhousing. Location of the vent hole in the barrel of the bellhousing Is not allowed.



3.6 STARTER POCKET

The use of a starter pocket is not allowed.

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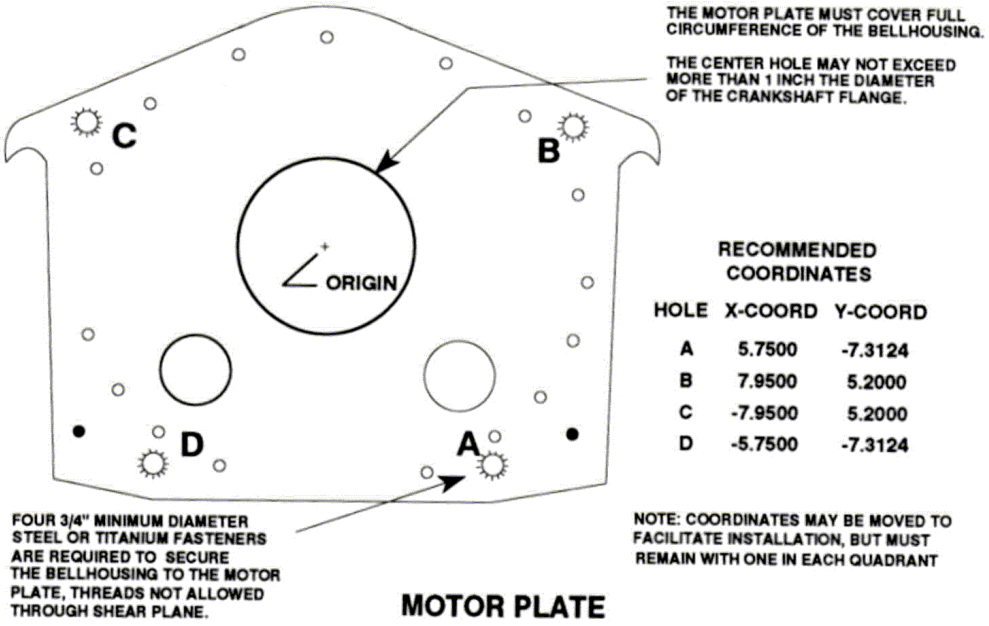
3.7 MOTOR PLATE

A. SFI 1.3 CLUTCH ASSEMBLY

The motor plate shall be one (1) piece 1/4" (6.4mm) normalized SAE 4130 chrome-molybdenum steel. All bolt holes in the bellhousing flange and the motor plate must be filled with the proper fasteners. The motor plate must cover the entire circumference of the bellhousing.



MOTOR PLATE

B. SFI 1.4 CLUTCH ASSEMBLY

The motor plate shall be one (1) piece 1/4" (6.4mm) normalized SAE 4130 chrome-molybdenum steel or 1/4" (6.4mm) wrought heat treated aluminum alloy of 6061-T6, 7075-T6 or 2024-T3 (no cast tooling plate). All bolt holes in the bellhousing flange and the motor plate must be filled with the proper fasteners. The motor plate must cover the entire circumference of the bellhousing.

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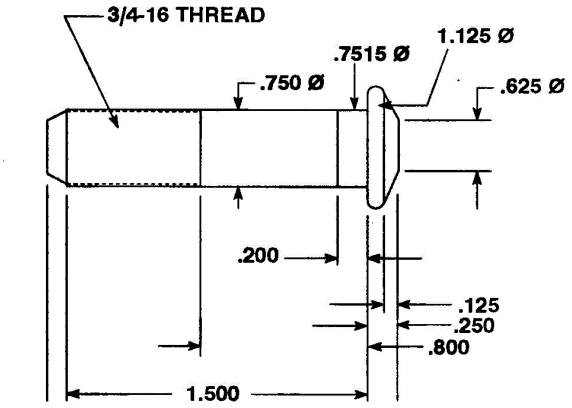
C. MOTOR PLATE STUD (3/4", 19mm)

The motor plate stud must be a minimum of Grade 5 and fabricated per the drawing on the top of page seven. Certification of mechanical properties and identification of the stud manufacturer must be on file with SFI. The stud hole must have a 1/4 inch (6.4mm) thick bushing, tack welded to the bellhousing flange with a minimum outer diameter of 1 1/4 inch (31.8mm).



MOTOR PLATE STUD

3.8 SCALLOPING

No scalloping allowed, see 2.0 DEFINTIONS.

3.9 FORK OPENING

The use of a fork opening is prohibited.

3.10 SENSOR HOLE

A single sensor hole, not greater than 1/2” may be placed in the rear surface of the bellhousing. When the bellhousing is installed, the sensor hole is the only allowable exposed opening in the rear of the bellhousing.

4.0 MODEL CLASSIFICATION

The major factors for model determination are materials, material thickness, increase in depth and inside radial dimensions. A variation of any of these parameters is considered a model change and must be tested.

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5.0 TESTING

The test samples shall be fully processed new bellhousings which are representative of bellhousings currently produced or to be produced. For initial design validation, three (3) bellhousings shall be tested. For periodic revalidation, one (1) bellhousing shall be tested. All necessary mounting hardware along with mounting instructions shall be supplied by the certifying manufacturer and used/followed by the test lab for installation/mounting in the test fixture. When a certifying manufacturer supplies both 3/8" (10mm) bolts (alcohol only) and 7/16" (11mm) bolts (fuel only) initial design and periodic revalidation testing must be performed with the smallest bolt offered.

Note: After the initial design validation criteria has been met (testing and passing three (3) different bellhousings) any current participating manufacturer, using that same established manufacturing process, may increase depth, and test one (1) bellhousing to validate that design.

5.1 EXPLOSION CONTAINMENT

5.1.1 SAMPLES

For a given model, the bellhousing shall be tested with the greatest possible depth, and largest possible rear opening.

5.1.2 APPARATUS

A. FLYWHEEL

A 13 inch (33cm) diameter, 30 pound (13.6kg) or equivalent energy steel flywheel without ring gear shall be used. The flywheel shall be modified to explode (in three (3) pieces of approximate equal size) between 10,000 and 11,000 revolutions per minute {rpm}.

B. TACHOMETER

A tachometer with an accuracy of ±2% at 10,500 rpm shall be used.

C. TEST FIXTURE

The test fixture shall have a mounting surface that resembles the rear of an engine block. The fixture shall also have a shaft located at the crankshaft position capable of being driven at the test speed. The shaft shall have a flange that will accept the test flywheel. The speed of the shaft shall be measured by the tachometer. The transmission opening must be covered during testing.

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5.1.3 PROCEDURES

The flywheel shall be mounted on the shaft flange with a spacer that inserts the flywheel one (1) inch (25.4mm) inside the bellhousing away from the flange area. The bellhousing shall then be mounted to the fixture as it would be mounted in service using the proper size and number of fasteners as designated by the certifying manufacturer. The flywheel shall be driven to a speed between 10,000 and 11,000 rpm until it explodes inside the bellhousing.

5.1.4 INSPECTION

Inspect the bellhousing for signs of fragment penetration or escape.

6.0 PROOF OF COMPLIANCE

Containment Bellhousing manufacturers are required to provide the following information to enroll in this program:

6.1 TEST RESULTS

Test results shall be documented in a test report.

6.1.1 EXPLOSION CONTAINMENT

The bellhousing shall be considered acceptable if it contains all of the explosion fragments and remains attached to the wall of the test fixture. Any fragments that escape through dust holes shall not be cause for failure. For initial design validation, all three bellhousings must pass.

7.0 TEST REPORTS

A separate test report, or set of test reports if required, shall be submitted for each product model. If more than one test facility is required to complete all necessary tests, then a separate test report shall be submitted from each one. A test report shall be submitted for each component, if tested separately. The test facility shall assign a unique number to each test report. This number along with the report date and page number shall appear on each page. Each test report shall include:

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7.1 RELEVANT INFORMATION

7.1.1 Manufacturer's name, contact name, address and telephone number.

7.1.2 Name, address and telephone number of the test facility.

7.1.3 Name and signature of the responsible test supervisor.

7.1.4 Actual date of the test.

7.1.5 Specification number and effective date.

7.1.6 Product name, description and model designation.

7.1.7 Component name and description.

7.1.8 Accompanied by a "Before" and "After" photo

7.2 TESTS

Each test conducted shall be listed showing the test name, apparatus used, procedure used and test results obtained along with any other appropriate information.

7.3 AUTHENTICATION

Test reports shall be authenticated and stamped by a Professional Engineer who is registered in the state in which the testing is conducted. If necessary, SFI may allow an equivalent entity to provide authentication.

8.0 INITIAL DESIGN VALIDATION

To receive initial recognition from SFI as a participant in the SFI Specification 6.2 Program, the manufacturer must submit to SFI all information delineated in the Proof of Compliance section. This information shall be provided for each Containment Bellhousing for an SFI 1.3 & 1.4 Clutch Assembly for Nitro-methane, Top Alcohol, and heavy-duty tractor applications model offered by the applicant that is to be included in the program. Any change in design, material and/or methods of manufacturing not specifically excluded is considered a model change and, therefore, requires initial design validation.

Note: A model certification is based on a successful test of a bellhousing with the greatest depth. A bellhousing variation shall not be considered certified under this model if it is later produced with greater depth, increased thickness or a change of inside radial dimensions unless that bellhousing is also successfully tested.

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9.0 PERIODIC REVALIDATION

Test reports with successful test results must be submitted to SFI at least once every 24-month period following the date of the initial design validation test for each model of 6.2 Bellhousing manufactured by the participant. After the second retest cycle following the initial design validation test (a total of three test occurrences), successful test results must be submitted to SFI at least once every 48 months. If multiple test reports are required to obtain all test results, then the earliest test date shall be used to determine when the periodic revalidation reports are due.

10.0 CERTIFICATION OF COMPLIANCE

Upon demonstration of successful compliance with all requirements of the specification, the self-certification program and upon entering into the licensing agreement with SFI, the manufacturer may advertise, present and offer the Containment Bellhousing for SFI 1.3 & 1.4 Clutch Assemblies for Nitro-methane, Top Alcohol, and heavy-duty tractor applications for sale with the representation that their product meets SFI Specification 6.2. Continuing certification is contingent upon the following additional considerations: (1) the product shall be resubmitted for testing following any change in design, material and/or methods of manufacturing not specifically excluded, (2) periodic revalidation test reports are submitted when due to SFI.

11.0 CONFORMANCE LABELS

The conformance label is a punch out sticker which shall be placed on the top outer surface of the bellhousing. Holes (1/8" (3.2mm) diameter) shall be punched in each sticker indicating the month and year the containment bellhousing is manufactured/recertified. Beside placing the label on the part, the serial number of the label along with the date shall be permanently marked on the bellhousing. The permanently marked information should be in the same location as the conformance label. For periodic inspection, the old label shall be removed and the foregoing procedure shall be followed using a new label. The serial number should appear on the customer invoice to aid in identification and tracking.

12.0 DECERTIFICATION

Participating manufacturers are subject to decertification when not in compliance with the guidelines of this program or when their products do not conform with the requirements of this specification. Decertification will provide SFI the right to effect any and all remedies which are available to SFI in the licensing agreement.

13.0 APPEAL PROCEDURE

In the event of decertification, the manufacturer is entitled to an appeal of the decision of SFI. Requests for appeal must be received by SFI no later than thirty days following receipt of the notice of decertification. Appeals of such decisions will be heard at the next meeting of the SFI Board of Directors.

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14.0 STATEMENT OF LIMITATIONS

Testing procedures and/or standards contained in this specification are intended for use only as a guide in determining compliance with the minimum performance requirements as defined herein. The granting and assignment of the "This Manufacturer Certifies That This Product Meets SFI Specification 6.2" logo/designation is in no way an endorsement or certification of product performance or reliability by SFI. SFI, its officers, directors and/or members assume no responsibility, legal or otherwise, for failure or malfunctions of a product under this program.

15.0 COSTS

All costs involved in this program will be absorbed by the submitting manufacturer.

16.0 COMPLIANCE PERIOD

As this specification is revised to reflect changes in technology and/or field conditions, to remain current, participating manufacturers in the SFI Specification 6.2, Containment Bellhousing for SFI 1.3 & 1.4 Clutch Assemblies for Nitro-methane, Top Alcohol, and heavy-duty tractor applications, Program, must demonstrate full compliance with the requirements of this specification within ninety (90) days of the latest effective date.

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	Reviewed:	September 1, 1995	Reviewed:	December 11, 2026
	Revised:	April 19, 1996	Revised:	April 9, 2026
	Revised:	August 30, 1996		
	Revised:	February 13, 1998		
	Reviewed:	August 31, 2001		
	Reviewed:	December 6, 2002		
	Reviewed:	December 10, 2004		
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	Reviewed:	December 9, 2011		
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	Revised:	May 11, 2015		
	Reviewed:	December 10, 2015		

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