

TRANSMISSION VERIFICATION REPORT

TIME : 03/20/2006 10:47  
 NAME : CITY OF SACRAMENTO  
 FAX : 9168085543  
 TEL : 9168085656  
 SER.# : BROH4J832840

DATE, TIME	03/20 10:47
FAX NO./NAME	98583993
DURATION	00:00:00
PAGE(S)	00
RESULT	BUSY
MODE	STANDARD

BUSY: BUSY/NO RESPONSE

*Alley Co*

**CITY OF SACRAMENTO  
 CASHIER'S WORKSHEET**

RECEIPT NUMBER: R0604414  
 TRANSACTION DATE: 03/20/2006  
 TRANSACTION AMOUNT: 191.52  
 NOTATION:

**ISSUED**  
**CITY OF SACRAMENTO**  
 MAR 20 2006  
**DOWNTOWN PERMIT  
 CENTER**

*George*

APD #: **0603738**  
 SITE ADDRESS: 327 ZEPHYR RANCH DR SAC  
 PARCEL: 031-0410-079  
 TYPE: Bldg Minor Permit  
 SUB-TYPE: RES  
 HOUSING: N  
 STATUS: **ISSUED**

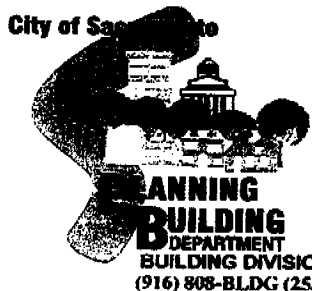
Mixed Income Housing  
 Fee Program  
 ??

TRANSACTION LIST

Type	Method	Description	Pymt Amount
Payment	Credit C	TEETER	191.52

RECEIPT ACCOUNT ITEM LIST

Class #	Description	Item #	Total Fee	Prev Pymt	Current Pymt
200	Permit--Building-Res	1100	175.00	.00	175.00
206	City Business Oper Tax	1730	3.62	.00	3.62
213	General Plan Surcharge	1760	5.90	.00	5.90
259	Bldg-Technology Surcharg	1750	7.00	.00	7.00



**Building Permit**

\*\*\*\*\* Office Use Only \*\*\*\*\*

**ISSUED**  
**CITY OF SACRAMENTO**  
 MAR 20 2006  
**DOWNTOWN PERMIT  
 CENTER**

Permit No: \_\_\_\_\_  
 Date Issued: \_\_\_\_\_  
 Total Amount: \_\_\_\_\_  
 Insp Area #: \_\_\_\_\_

\*\*\*\*\* Please Fill in the Following \*\*\*\*\*

Site Address: 327 Zephyr Ranch Dr Sacramento, CA 95831  
 Nature of Work: Change out Heat Pump Package on roof / seal Ducts

**CONSTRUCTION LENDING AGENCY:** I hereby affirm under penalty of perjury that there is a construction lending agency for the performance of the work for which this permit is issued (Sec. 3097, Civ. C).

Lender's Name \_\_\_\_\_ Lender's Address \_\_\_\_\_

**LICENSED CONTRACTORS DECLARATION:** I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9 (commencing with section 7000) of Division 3 of the Business and Professions Code and my license is in full force and effect.  
 License Class C20C36 License Number 675403 Date 3-15-06 Signature Andy Powell

**OWNER-BUILDER DECLARATION:** I hereby affirm under penalty of perjury that I am exempt from the contractors License Law for the following reason (Sec. 7031.5, Business and Professions Code; any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he or she is licensed pursuant to the provisions of the Contractors License Law (Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code) or that he or she is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than five hundred dollars (\$500.00);

I, as a owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business and Professional Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or herself or through his/her own employees, provided that such improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he/she did not build or improve for the purpose of sale.)

I, as owner of the property, am exclusively contracting with licensed contractors to construct the project (Sec. 7044, Business and Professions Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractors License Law).

I am exempt under Sec. \_\_\_\_\_ B & PC for this reason: \_\_\_\_\_

Date \_\_\_\_\_ Owner Signature \_\_\_\_\_

**IN ISSUING THIS BUILDING PERMIT,** the applicant represents, and the city relies on the representation of the applicant, that the applicant verified all measurements and locations shown on the application or accompanying drawings and that the improvement to be constructed does not violate any law or private agreement relating to permissible or prohibited locations for such improvements. This building permit does not authorize any illegal location of any improvement or the violation of any private agreement relating to location of improvements.

I certify that I have read this application and state that all information is correct. I agree to comply with all city and county ordinances and state laws relating to building construction and hereby authorize representative(s) of this city to enter upon the abovementioned property for inspection purposes.

Date 3-15-06 Applicant/Agent Signature Andy Powell (Agent)

**WORKER'S COMPENSATION DECLARATION:** I hereby affirm under penalty of perjury one of the following declarations:

- I have and will maintain a certificate of consent to self-insure for workers' compensation as provided for by Section 3700 of the Labor Code, for the performance of work for which the permit is issued.
- I have and will maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My workers' compensation insurance carrier and policy number are:  
 Carrier State Fund  
 Policy Number 1839242-06 Expiration Date 01-01-07

(This section need not be completed if the permit is for \$100 or less) I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California and agree that if I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.

Date 3-15-06 Applicant Signature Andy Powell

**WARNING: FAILURE TO SECURE WORKER'S COMPENSATION COVERAGE IS UNLAWFUL AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS (\$100,000) IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST AND ATTORNEY'S FEE.**

**THIS PERMIT SHALL EXPIRE BY LIMITATION IF WORK IS NOT COMMENCED WITHIN 180 DAYS.**

### HEATING AND COOLING EQUIPMENT QUESTIONNAIRE

Applicant's name: Sandy Powell Phone: 916-858-3993

Project Address: 327 Zephyr Ranch Dr Sacramento, CA 95831

Please check the appropriate boxes. Only check a box if it accurately and completely describes your proposed work, otherwise leave boxes blank.

1. **GROUND-MOUNTED UNIT**

- a.  There is an existing ground-mounted unit.
  - The existing unit shall be removed. The new unit shall be placed in the same location as the existing unit and shall not exceed the size of the existing unit by more than 25%.
  - The new unit differs in location from the existing unit.
    - The new unit is fully screened behind a solid fenced area and will not be visible from any street views.
    - Existing shrubs or buildings will screen the unit from being visible from any street views.
- b.  There is no unit in the proposed location.
  - The new unit will be fully screened behind a solid fenced area and will not be visible from any street views.
  - Existing shrubs or buildings will screen the unit from being visible from any street views.

2. **ROOF-MOUNTED UNIT**

- a.  There is an existing roof-mounted unit.
  - The existing unit shall be removed. The new unit shall be placed in the same location as the existing unit and shall not exceed the size of the existing unit by more than 25%.
  - The new unit differs in location from the existing unit. The new unit shall be screened from street views by the building with no portion of the new unit being visible from any street views.
- b.  There is no existing roof-mounted unit
  - The new unit shall be screened from street views by the building with no portion of the new unit being visible from any street views

By signing below, the applicant certifies that this form accurately describes the proposed work.

Applicant's signature: Sandy Powell Date: 3-15-06

For City Staff use only

Counter Staff \_\_\_\_\_

- In a DR District Meets DR criteria?  Yes  No (route to DR staff)
- In a P area or listed (route to P staff)
- Not in DR/P area



**CITY OF SACRAMENTO**  
 PLANNING & BUILDING DEPARTMENT  
 BUILDING DIVISION  
 WWW.CITYOF.SACRAMENTO.CA.GOV  
 Help Line: 1-916-264-8656 OR 1-866-EZ-PERMIT  
 Inspection: 1-916-808-4877



Downtown Permit Center 1-916-264-8807  
 1231 I Street, Suite 200, Sacramento, CA 95814

North Permit Center 1-916-808-2354  
 2101 Arena Blvd., Suite 200, Sacramento, CA 95834 Fax # 916-264-1901

**FAXBACK PERMIT APPLICATION**

(certain restrictions apply)

Faxed request must be received in this office by 3:00 P.M. to be processed the following work day. Contractors must have a current certificate of Worker's Compensation Insurance. Work started before a Building Permit is issued will be subject to quad fee.

Permits requiring plan review are not eligible for FAXBACK

*Fox Box*

In order to process this request, ALL the following information MUST be provided: 0605738

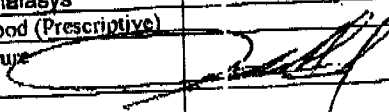
Credit Card Information on File?  Yes  No  
 Job Address: 327 Zephyr Ranch Dr Sac. 95831 Residential  Apartments (4+ units per building)  Commercial (limited)  
 Contact Person: Sandy Powell Unit # \_\_\_\_\_ Contract Price \$ 9057.50  
 Property Owner: Robert Bryant Contractor: Alley and Co Inc  
 Address: 327 Zephyr Ranch Dr Address: 11367 Trade Center Dr #120  
 City/State/Zip: Sacramento, CA 95831 City/State/Zip: Rancho Cordova, CA 95742  
 Phone: 916-428-5670 Phone: 916-858-3993

Description of Work: Change out Heat Pump package on roof/seal ducts  
 Nature of Work: (Provide detailed description of work & indicate type of work in selections below)

<input type="checkbox"/> Reroof (excluding tile) <input type="checkbox"/> Tear-Off <input type="checkbox"/> Resheet <input type="checkbox"/> House <input type="checkbox"/> Garage # Stories: _____ # Squares: _____ Material: <input type="checkbox"/> Siding <input type="checkbox"/> Wood <input type="checkbox"/> T-111 <input type="checkbox"/> Horiz <input type="checkbox"/> Vinyl <input type="checkbox"/> Stucco * Design Review approval may be required.	<input checked="" type="checkbox"/> HVAC Installations (Residential Only) <input checked="" type="checkbox"/> Change-out <input type="checkbox"/> New <input checked="" type="checkbox"/> Heat Pump <input checked="" type="checkbox"/> Package <input type="checkbox"/> Split system <input type="checkbox"/> Roof mount <input type="checkbox"/> Cut-in <input type="checkbox"/> Heat pump or elect. unit to gas <input type="checkbox"/> Wall furnace <input type="checkbox"/> Other (describe below) Value of duct work: _____ Equipment: \$ _____ Cut-in: \$ _____ * Design Review approval may be required.	<input type="checkbox"/> Water Heater (Residential Only) <input type="checkbox"/> Gas <input type="checkbox"/> Electric <input type="checkbox"/> Change-out <input type="checkbox"/> Electric to Gas <input type="checkbox"/> Relocate <input type="checkbox"/> New <input type="checkbox"/> Dry Rot or Termites Damage Repair (Describe Locations Below) * Design Review approval may be required.	<input type="checkbox"/> Minor Electric and/or Minor Plumbing (Residential Only) <input type="checkbox"/> Electric Service Change # _____ <input type="checkbox"/> New electric circuits <input type="checkbox"/> Re-wire <input type="checkbox"/> Water Service Replacement <input type="checkbox"/> Sewer Service Replacement <input type="checkbox"/> Gas Line Replacement <input type="checkbox"/> Re-plumb <input type="checkbox"/> Water <input type="checkbox"/> Waste	<input type="checkbox"/> Public Utilities Safety Inspection (Residential and single apartment units Only) <input type="checkbox"/> SMUD <input type="checkbox"/> PG&E * NOTE: Correction Notice items will require an additional building permit.
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PBF10002

# 0603738

CERTIFICATE OF FIELD VERIFICATION & DIAGNOSTIC TESTING (Page 1 of 8)		CF-4R
Project Address 327 Zephyr Ranch Dr Sacramento 95831	Builder Name	
Builder Contact Installing Contractor Alley & Co.	Telephone	Plan Number
HERS Rater Home Enalaysys	Telephone 760-768-2228	Sample Group Number 1
Compliance Method (Prescriptive)	Date 04/28/06	Climate Zone 12
Certifying Signature 		Sample House Number 433
Firm Enalaysys Corp		HERS Provider CBPCA
Street Address 250 Campillo Ave		City/State/Zip Calxico CA 92231

Copies to: BUILDER, HERS PROVIDER AND BUILDING DEPARTMENT

**HERS RATER COMPLIANCE STATEMENT**

The house was:  Tested  Approved as part of sample testing, but was not tested  
 As the HERS rater providing diagnostic testing and field verification, I certify that the house identified on this form complies with the diagnostic tested compliance requirements as checked  on this form. The HERS rater must check and verify that the new distribution system is fully ducted and correct tape is used before a CF-4R may be released on every tested building. The HERS rater must not release the CF-4R until a properly completed and signed CF-6R has been received for the sample and tested buildings.

- The installer has provided a copy of CF-6R (Installation Certificate).
- New Distribution system is fully ducted (i.e., does not use building cavities as plenums or platform returns in lieu of ducts).
- New systems where cloth backed, rubber adhesive duct tape is installed, mastic and draw bands are used in combination with cloth backer; rubber adhesive duct tape to seal leaks at duct connections.

**MINIMUM REQUIREMENTS FOR DUCT LEAKAGE REDUCTION COMPLIANCE CREDIT**

Procedures for field verification and diagnostic testing of air distribution systems are available in RACM, Appendix RC4.3.

NEW CONSTRUCTION:		Measured Values	
1	Duct Pressurization Test Results (CFM @ 25 Pa)		
2	Enter Tested Leakage Flow in CFM: Fan Flow: Calculated (Nominal) <input checked="" type="checkbox"/> Cooling <input checked="" type="checkbox"/> Heating or <input checked="" type="checkbox"/> Measured	1000	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
3	Enter Total Fan Flow in CFM: Pass if Leakage Percentage $\leq 6\%$ [ $100 \times [ \text{Line # 1} ] / [ \text{Line # 2} ]$ ]		<input type="checkbox"/> Pass <input type="checkbox"/> Fail
<b>ALTERATIONS: Duct System and/or HVAC Equipment Change-Out</b>			
4	Enter Tested Leakage Flow in CFM from CF-6R: Pre-Test of Existing Duct System Prior to Duct System Alteration and/or Equipment Change-Out.		
5	Enter Tested Leakage Flow in CFM: Final Test of New Duct System or Altered Duct System for Duct System Alteration and/or Equipment Change-Out.	64	
6	Enter Reduction in Leakage for Altered Duct System [ (Line # 4) Minus (Line # 5) ] (Only if Applicable)		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
7	Enter Tested Leakage Flow in CFM to Outside (Only if Applicable)		<input type="checkbox"/> Pass <input type="checkbox"/> Fail
8	Enter New Duct System - Pass if Leakage Percentage $\leq 6\%$ [ $100 \times [ \text{Line # 5} ] / [ \text{Line # 2} ]$ ]		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
<b>TEST OR VERIFICATION STANDARDS: For Altered Duct System and/or HVAC Equipment Change-Out</b>			
Use one of the following four Test or Verification Standards for compliance:			
9	Pass if Leakage Percentage $\leq 5\%$ [ $100 \times [ \text{Line # 5} ] / [ \text{Line # 2} ]$ ]	6.4	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
10	Pass if Leakage to Outside Percentage $\leq 10\%$ [ $100 \times [ \text{Line # 7} ] / [ \text{Line # 2} ]$ ]		<input type="checkbox"/> Pass <input type="checkbox"/> Fail
11	Pass if Leakage Reduction Percentage $\geq 60\%$ [ $100 \times [ \text{Line # 6} ] / [ \text{Line # 4} ]$ ] and Verification by Smoke Test and Visual Inspection		<input type="checkbox"/> Pass <input type="checkbox"/> Fail
12	Pass if Sealing of all Accessible Leaks and Verification by Smoke Test and Visual Inspection		<input type="checkbox"/> Pass <input type="checkbox"/> Fail
			* Pass <input type="checkbox"/> Fail

# 0603738

<b>INSTALLATION CERTIFICATE</b>		<b>(Page 3 of 12) CF-6R</b>
Site Address <b>327 Zephyr Ranch</b>	Permit Number <b>0603738</b>	

An installation certificate is required to be posted at the building site or made available for all appropriate inspections. (The information provided on this form is required) After completion of final inspection, a copy must be provided to the building department (upon request) and the building owner at occupancy, per Section 10-103(a).

**HVAC SYSTEMS:**  
*Heating Equipment*

Equip Type (pkg. heat pump)	CEC Certified Mfr. Name and Model Number	# of Identical Systems	Efficiency (AFUE, etc.) <sup>1</sup> (≥CF-IR value)	Duct Location (attic, etc.)	Duct or Piping R-value	Heating Load (Btu/hr)	Heating Capacity (Btu/hr)
<b>Pkg Heat Pump</b>	[REDACTED]	<b>1</b>	<b>83.0</b>	<b>Attic</b>	<b>4</b>	<b>0</b>	<b>0</b>

*Cooling Equipment*

Equip Type (pkg. heat pump)	CEC Certified Mfr. Name and Model Number	# of Identical Systems	Efficiency (SEER or EER) <sup>1</sup> (≥CF-IR value)	Duct Location (attic, etc.)	Duct R-value	Cooling Load (Btu/hr)	Cooling Capacity (Btu/hr)
<b>Pkg Heat Pump</b>	[REDACTED]	<b>1</b>		<b>Attic</b>	<b>4</b>	<b>30000</b>	<b>30000</b>

1. ≥ symbol reads *greater than or equal to what is indicated on the CF-IR value.*  
Include both SEER and EER if compliance credit for high EER air conditioner is claimed.

I, the undersigned, verify that equipment listed above is: 1) is the actual equipment installed, 2) equivalent to or more efficient than that specified in the certificate of compliance (Form CF-1R) submitted for compliance with the *Energy Efficiency Standards* for residential buildings, and 3) equipment that meets or exceeds the appropriate requirements for manufactured devices (from the *Appliance Efficiency Regulations* or Part 6), where applicable.

Installing Subcontractor (Co. Name) OR General Contractor (Co. Name) OR Owner	
Signature: <i>Sandy Powell</i>	Date: <b>06/01/06</b>

Copies to: BUILDING DEPARTMENT, HERS RATER (IF APPLICABLE) BUILDING OWNER AT OCCUPANCY

# 0603738

**INSTALLATION CERTIFICATE** (Page 4 of 12) **CF-6R**

Site Address: **327 Zephyr Ranch** Permit Number: **0603738**

**INSTALLER COMPLIANCE STATEMENT FOR DUCT LEAKAGE**

**INSTALLER COMPLIANCE STATEMENT**

The building was:  Tested at Final  Tested at Rough-in

**INSTALLER VISUAL INSPECTION AT FINAL CONSTRUCTION STAGE:**

- Remove at least one supply and one return register, and verify that the spaces between the register boot and the interior finishing wall are properly sealed.
- If the house rough-in duct leakage test was conducted without an air handler installed, inspect the connection points between the air handler and the supply and return plenums to verify that the connection points are properly sealed.
- Inspect all joints to ensure that no cloth backed rubber adhesive duct tape is used
- New Distribution system is fully ducted (i.e., does not use building cavities as plenums or platforms returns in lieu of ducts).

**DUCT LEAKAGE REDUCTION**

*Procedures for field verification and diagnostic testing of air distribution systems are available in RACM, Appendix RC4.3*

<b>NEW CONSTRUCTION:</b>			
	Duct Pressurization Test Results (CFM @ 25 Pa)	Measured Values	
1	Enter Tested Leakage Flow in CFM:		
2	Fan Flow: Calculated (Nominal: <input checked="" type="checkbox"/> Cooling <input type="checkbox"/> Heating) or <input type="checkbox"/> Measured If Fan Flow is Calculated as 400 cfm/ton x number of tons or as 21.7 cfm/(kBtu/hr) x Heating Capacity in Thousands of Btu/hr output, enter total calculated or measured fan flow in CFM here:	<b>1000</b>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
3	Pass if Leakage Percentage $\leq$ 6% for Final or $\leq$ 4% at Rough-in: [100 x [ (Line # 1) / (Line # 2) ]]		<input type="checkbox"/> Pass <input type="checkbox"/> Fail
<b>ALTERATIONS: Duct System and/or HVAC Equipment Change-Out</b>			
4	Enter Tested Leakage Flow in CFM from Pre-Test of Existing Duct System Prior to Duct System Alteration and/or Equipment Change-Out.		
5	Enter Tested Leakage Flow in CFM from Final Test of New Duct System or Altered Duct System for Duct System Alteration and/or Equipment Change-Out.	<b>64</b>	
6	Enter Reduction in Leakage for Altered Duct System [ (Line # 4) Minus (Line # 5) ] - (Only if Applicable)		
7	Enter Tested Leakage Flow in CFM to Outside (Only if Applicable)		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
8	Entire New Duct System - Pass if Leakage Percentage $\leq$ 6% for Final [100 x [ (Line # 5) / (Line # 2) ]]		<input type="checkbox"/> Pass <input type="checkbox"/> Fail
<b>TEST OR VERIFICATION STANDARDS: For Altered Duct System and/or HVAC Equipment Change-Out Use one of the following four Test or Verification Standards for compliance:</b>			
9	Pass if Leakage Percentage $\leq$ 15% [100 x [ (Line # 5) / (Line # 2) ]]	<b>6.4</b>	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
10	Pass if Leakage to Outside Percentage $\leq$ 10% [100 x [ (Line # 7) / (Line # 2) ]]		<input type="checkbox"/> Pass <input type="checkbox"/> Fail
11	Pass if Leakage Reduction Percentage $\geq$ 60% [100 x [ (Line # 6) / (Line # 4) ]] and Verification by Smoke Test and Visual Inspection		<input type="checkbox"/> Pass <input type="checkbox"/> Fail
12	Pass if Sealing of all Accessible Leaks and Verification by Smoke Test and Visual Inspection		<input type="checkbox"/> Pass <input type="checkbox"/> Fail
<b>Pass if One of Lines # 9 through # 12 pass</b>			<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

I, the undersigned, verify that the above diagnostic test results were performed in conformance with the requirements for compliance credit. I, the undersigned, also certify that the newly installed or retrofit Air-Distribution System Ducts, Plenums and Fans comply with Mandatory requirements specified in Section 150 (m) of the 2005 Building Energy Efficiency standards.

Installing Subcontractor (Co. Name) OR General Contractor (Co. Name) OR Owner	
Signature: <i>[Signature]</i>	Date: <b>06/01/06</b>

Copies to: **BUILDING DEPARTMENT, HERS RATER (IF APPLICABLE) BUILDING OWNER AT OCCUPANCY**

#1603738

<b>INSTALLATION CERTIFICATE</b>		<b>(Page 5 of 12) CF-6R</b>
Site Address <b>327 Zephyr Ranch</b>	Permit Number <b>0603738</b>	

**THERMOSTATIC EXPANSION VALVE (TXV)**  
*Procedures for field verification of thermostatic expansion valves are available in RACM, Appendix RJ.*

<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Access is provided for inspection. The procedure shall consist of visual verification that the TXV is installed on the system and installation of the specific equipment shall be verified.	<input type="checkbox"/>	<input type="checkbox"/>
			Yes is a pass	Pass	Fail

**REFRIGERANT CHARGE MEASUREMENT**  
*Verification for Required Refrigerant Charge and Adequate Airflow for Split System Space Cooling Systems without Thermostatic Expansion Valves*

Outdoor Unit Serial #	
Location	
Outdoor Unit Make	
Outdoor Unit Model	
Cooling Capacity	Btu/hr
Date of Verification	
Date of Refrigerant Gauge Calibration	(must be checked monthly)
Date of Thermocouple Calibration	(must be checked monthly)

**Standard Charge Measurement Procedure (outdoor air dry-bulb 55°F and above):**  
*Procedures for Determining Refrigerant Charge using the Standard Method are available in RACM, Appendix RD2.*  
 Note: The system should be installed and charged in accordance with the manufacturer's specifications before starting this procedure.

**Measured Temperatures**

Supply (evaporator leaving) air dry-bulb temperature (Tsupply, db)		°F
Return (evaporator entering) air dry-bulb temperature (Treturn, db)		°F
Return (evaporator entering) air wet-bulb temperature (Treturn, wb)		°F
Evaporator saturation temperature (Tevaporator, sat)		°F
Suction line temperature (Tsuction, db)		°F
Condenser (entering) air dry-bulb temperature (Tcondenser, db)		°F

**Superheat Charge Method Calculations for Refrigerant Charge**

Actual Superheat = Tsuction, db - Tevaporator, sat		°F
Target Superheat (from Table RD-2)		°F
Actual Superheat - Target Superheat (System passes if between -5 and +5°F)		°F

**Temperature Split Method Calculations for Adequate Airflow**

*Split Method Calculation is not necessary if Adequate Airflow credit is taken*

Actual Temperature Split = T return, db - Tsupply, db		°F
Target Temperature Split (from Table RD3)		°F
Actual Temperature Split - Target Temperature Split (System passes if between -3°F and +3°F or, upon remeasurement, if between -3°F and -100°F)		°F